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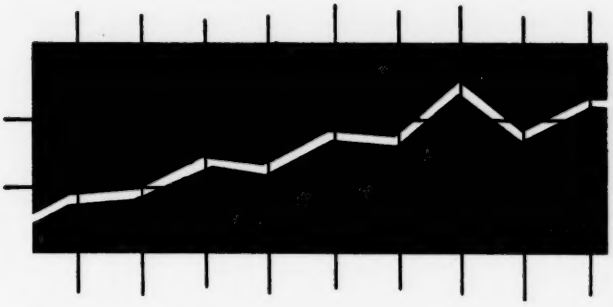

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BUSINESS TOPICS

"Let your discourse with men of business be short and comprehensive."

George Washington's Copybook.

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Can we afford constant insistence upon forced-draft prosperity? A plea for economic sophistication about recessions

The Economic Outlook

BY EDWIN G. NOURSE

ON THE WHOLE, this is about as risky a moment as one could think of for an economist to get up to talk to a business audience about the economic outlook. The country has just been experiencing some kind of cyclical swing from the boom of 1955-56 to the recession of 1957-58. That recession was only moderately greater than those of 1949 and 1953 and has been as promptly "contained." We are now six weeks away from Labor Day, which is the traditional starting point for the fall upturn of business. This is the very moment when we should be able to read the signs and portents that presage a glowing or a disappointing fourth quarter boom, stable prosperity, or something else in 1959. But the evidence is so confused or contradictory that the admitted "experts" stand hesitant or in articulate disagreement.

Three riddles are wrapped in the enigma of 1959 business for the United States and for Michigan—and for your company. (a) Are we going to bounce back to a 6.5 million-car automobile market or settle toward a trend line at 5-something? (b) Will the high rate of industrial and commercial building and the revived rate of residential building continue to rise and thereby keep the construction companies busy, their suppliers booked to capacity, and this great segment of the labor force fully employed? (c) Is inflation as now widely practiced in this country a healthful as well as pleasant means of economic stimulation, or is it "a monkey on our back" that will enfeeble the user and demoralize the processes of business?

Not being endowed with the gift of prophecy, I shall not attempt specific answers to any one of these three momentous questions. But, believing that the role of the economist is to analyze the underlying factors that assert themselves in market behavior, I shall make a flank attack on the general issue of which these three problems are outstanding parts. That is, I shall raise a few simple questions as to why things have taken the course they have, not merely in the last few months but also during the decade or so since the end of World War II. Then I shall ask whether it seems reasonable to think that these same forces are still here in the same measure or in even greater strength or perhaps only in more or less diminished potency.

A great wave of optimism is now sweeping the country, and this is fine as a tonic for vigorous business planning. We should of course move on confidently to the bright day when there will be two infrared roasted chickens in every electric refrigerator and two

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oversize and overstyled automobiles sticking out of both ends of every garage. But the prudent businessman wants to see sound reasons to back up any estimate of how many people will be in the market for his product, what will make them anxious or at least willing to buy it, and what income pattern will be needed to enable them to do so. It is not enough to take the admitted fact that the country built 1.4 million dwellings in a recent past year and 7.8 million automobiles and project these figures into 1959 as even a bogey to shoot at. To look at any past figure of performance should not be to set it as either a floor or a ceiling for a future year's calculations. It is just a statistical fact that calls for cold-blooded interpretation.

THE POSTWAR BOOM

This brings me to the nub of what I want to say to you today. It begins with a brief descriptive statement of the 12-year postwar boom of 1946-57 inclusive. It was, in my analysis:

(a) a re-equipping and re-stocking boom
(b) a technological revolution boom
(c) an early marriage and multi-baby boom
(d) an expansion of the middle-income class boom
(e) an easy money and big government budget boom
(f) a price-inflation boom.

Now, if time permitted, I would like to analyze each of these phases of the 1945-57 boom, trying to separate the part of each which seems to have been special and *ad hoc* and the part that is fundamental and likely to persist—though perhaps in modified form or altered strength. But an over-all interpretation of the boom which I want to suggest to you is that it had a substantial number of non-recurrent factors rather than establishing a new trend line in each of its six strands so that it would be reasonable to expect next year to put us back on a course that will outboom the boom of the early 50's.

The pipelines were filled long ago, and even CCC stocks of farm products and government stockpiling of other commodities can no longer do more than disguise the state of surplus supply. Plants have been reequipped and expanded to the stage of temporary excess capacity. While organized labor will continue to bargain out income gains in areas of strategic strength, it is hardly conceivable that there could be such a mass realignment of income classes in the next decade or so as took place during and since World War II. Even the fad of big families gives signs of abating, as fond parents discover the costs of raising several children under rising standards of living and constantly inflating prices. Technological progress is the one of these six factors that would seem to be most solidly established in a persistent uptrend possibly even at an accelerating rate. But we must remember that, while such developments often lead to demands for entirely new and more ponderous plant installations, they also often bring about reductions in both plant and labor demands.

Living at a Boil. What we have been witnessing is a dynamic enterprise society in a state of boiling activity, in a setting of revolutionary technological progress and great institutional changes. These institutional changes include expanded and strengthened credit facilities, strong union bargaining and escalated wage contracts, expanded government spending, heavier taxes, and increased social security from both private and public funds. All these factors are still with us and give us assurance of a continually dynamic economy and levels of prosperity well sustained against the sharp and wasteful collapses of the past.

I do not need to ask you the question: Do you for a moment suppose

that the crash of October 1929 could be repeated under today's S.E.C., F.D.I.C., and Federal Reserve conditions? But I do ask you another question in all seriousness: Do you think we should keep things at "the jumping boil" all the time and expect the government to turn the heat on every time the economy simmers down to a period of consolidating its gains and laying the groundwork for the next surge forward? This, I think, is the fundamental issue confronting our business world today.

It appears to be of the very essence of a free enterprise economy that the capital goods expansion of industrial and commercial companies shall occur in waves of over-enthusiasm and subsequent overcaution. This is true also of capitalized consumer items such as automobiles and houses. It will undoubtedly continue to be the case in the future even though the long-range planning of economically sophisticated corporate management puts something of a stabilizer on it. When these swings are accompanied and indeed exaggerated by large swings in consumer expenditures, particularly on non-durables, the magnitude of the cycle of boom and depression is magnified.

The Consumer as Cushion. It is a striking aspect of the recent (or current) recession that consumer spending has been amazingly well maintained. This has provided a stabilizing factor of no mean importance, and there is every reason to regard it as a built-in feature of our American way of economic life for the future. Mass consumer groups who have come to a sense of considerable social security continue to be good spenders even when the FRB index of production takes a rather substantial dip. Thus they cushion the drop for the merchant, and he in turn keeps the manufacturer's order book from collapsing. All this means payrolls sufficiently maintained that the economy does not get out of control in one of those self-perpetuating downward spirals that were the tragic culmination of the old-fashioned economic depression. But this does not mean that there will be no periods of deceleration —as the automobile industry has found out.

What I have said thus far may be summed up in two broad conclusions: (1) That the structure of our economy and the behavior of executives as administrators of business affairs and consumers as administrators of family affairs give assurance that we shall probably not have recessions much deeper in the foreseeable future than we have already had during the postwar period nor unduly prolonged; (2) on the other hand, I do not see in the relationship of unsatisfied needs and disposable purchasing power, of prospective cost and price relationships, of public policy and private initiative the indicators of a pronounced upturn (above seasonal) in the fourth quarter of 1958 and an accelerating boom in 1959.

THE YEAR AHEAD

A prominent business periodical a couple of weeks ago presented an eye-catching cover design in the form of a question: "How Big will the New Boom Be?" and an accompanying chart that showed two small rises presumably in 1950 and 1956 (no dates given) and a soaring upsweep for the next couple of years. This line ran off the chart at an angle that implied an immediate boom of some three or four times the dimensions of the 1956 boom. This pseudo-chart and the bland use of the term "boom" and the underlined "big" seem to me about as unwarranted and misleading a display as it would be possible to devise at this juncture.

Now, if we go on to a boom basis in 1959, it will, in my judgment be an inflationary boom—not soundly based and sustainable prosperity. Of course this issue of inflation is a very complex and highly controversial one. I shall

not attempt to examine it in detail but simply state that it constitutes in my mind the greatest threat to achieving the goal of sustained high level use of our productive resources—human and material—that was the stated objective of the Employment Act of 1946 and should be the hope of all serious citizens. I have never been as comfortably confident as some well-known economists have been that inflation is a safe as well as a pleasant way of economic life. I have always been somewhat apprehensive of the time when it would cease to creep and would accelerate into a flight from the dollar.

There are two phases of this matter that I find particularly pertinent to the puzzlements of our present position and outlook for 1959—one the price-profit trend and the other the meaning (if any) of the recent antics of the stock market. They are interlocked, but I shall begin with the stock market. More than a year ago I noted with concern in a public address that some Wall Street voices were beginning to imply, if not state explicitly, that common stocks should be bought as a hedge against inflation. Recently, this advice has been open and quite general. It seems to me to furnish the most plausible but also much the more alarming of the two explanations—or rationalizations—of public participation in this rampant stock market. People who got in early on this excursion have had a lovely ride. That all of them can disembark with safety to themselves and to the economy is not so clear. With my Yankee habit of posing a question rather than volunteering an answer, I ask: Have you written the possibility of a severe stock market shake-out into or out of your business calculations for 1959?[1] Fortunately, wide margin requirements, large institutional buyers, and a sound credit system provide a sturdy backstop against a market rout. But boom psychology might take a beating. Suppose it did. I couldn't care less.

Stocks and Wishful Thinking. Now let us look at the other explanation of why stocks are where they are. Stocks are eagerly bought by people who want to ride the gravy train of the boom which is supposed now to be in its early stages. Next year, they believe, gross national product will soar, unemployment will disappear, personal income will touch new peaks, and profits exceed all past records. Even if a price is now 20 times present earnings all one need do is wait a year or so for rising profits to bring the ratio up to an investment basis. This is a fascinating prospect, but in appraising that line of reasoning we should not be swayed by wishful thinking or the folklore of the chart reader.

There was an old-time belief that the stock market is a good barometer of coming economic weather. In recent years, this view had largely been discredited, but it seems to be coming back now in certain quarters. To my mind it seems more likely that the profits picture that unfolds in 1959 will call for a reduction of many of the recent advances in stock prices rather than that these prices will be justified by the earnings that materialize next year.

Let us look for a moment at the cheerful argument that present high and even yet higher stock prices will be justified by greatly expanded profits over the next 12 to 18 months. This increase presupposes the reduction of unemployment to the 1955-57 labor float of less than 3 million; stable or moderately rising prices; sales volume so much increased as to absorb present overcapacity. Such a forecast amounts to placing a bet that our team will get all the breaks of the game. But the "insolent chariots" may not strike the

[1]It must be obvious that these paragraphs were written prior to Tuesday, October 14. But I have felt no compulsive urge to change them. It may be recent declines in stock prices are no more than an overdue technical correction. But what I am here talking about is something of greater amplitude and duration.

buying public as so irresistible as to blind buyers to the figures on the price tag. Steel usings at Detroit and other automobile centers may not rise fast enough to boost bookings at Pittsburgh, Youngstown et al. up to 85 or 90 per cent of their 142 million-ton capacity. Workers may not be so much in demand at present and promised wage rates and benefits as to get full employment under automated processes. Some very knowledgeable people foresee 5 million workers unemployed in 1959.

Efficiency and the Hard Sell. Business management, to be sure, has two good pitchers to send into the game for the next inning. One is named Hard Sell; the other is named Efficiency. But the hard sell calls for more costly ads, television programs, and sales force, or for glamorizing, fancy packaging, or extra servicing—all of which add to delivered cost. Or, on the other hand, the producer may reluctantly turn to—or be forced to—price appeal. In either case, full-volume operation bids fair to be won only on the basis of narrower profit margins.

Let us turn then to the argument that efficiency will enable manufacturers and merchants to absorb cost increases and thus hold the line on prices or meet competitive lowering of them. It must be remembered that improved operative efficiency ordinarily means labor saving or economy in use of materials and supplies. Logically, therefore, the increased volume of finished goods that would be poured out at the level of activity that is being so freely predicted for next year would not be accompanied by a proportionate increase in employment and in sales of raw materials. But this gets us on the other horn of the dilemma—reduction of force or less rehiring than would be needed to give the expanded buying power that would materialize a real boom in 1959. If, on the other hand, efficiency is translated into competitive price-paring to get volume, total profits, instead of expanding, would be stable or shrinking, thus cutting the ground from under the present structure of stock market prices.

MAKING OUR OWN BREAKS

I do not profess to know what combination of these several factors will materialize during the next five quarters, but I cannot fit the several elements of the picture into a solid structure of reasoning that seems to me to promise a continuation of the present revival up to the boom dimensions which are being so cheerfully forecast in many quarters.

To say this is not to cast myself as an apostle of gloom or a raiser of spooks. I confidently expect 1959 to be a year of good prosperity, but not the fabulous boom that would make profits catch up with present or still higher stock market averages. While we should not expect to get all the breaks of the economic game in 1959, we will probably get a fair average of good and bad luck. More important is it that we make our own breaks by realism in facing problems and by reasonableness in making the compromises and adjustments that are needed to make a free enterprise system work well when confronted with difficult readjustment problems.

All in all, I believe we should take solid satisfaction in the demonstration of the ability of our economy to make a firm bottom to this latest recession and should entertain reasonable hopes for as good or moderately better conditions in 1959 as those obtaining this year. But this is something quite different from the confidence of the easy optimists in the continually upsurging bull market.

As I interpret our present economic situation and outlook, I would suggest that we are in a perfectly normal and not dangerously severe stage of shaking down to the mutual adjustments of new technology, new consumer patterns,

new fiscal practices, and new strategies of private business management. If we accomplish these adjustments within a free enterprise economy with economic sophistication and mutual tolerance over a space of two or three years, I believe we shall be giving a good account of the American way of economic life. To insist that we must have forced-draft prosperity all the time—or chronic boom—is to invite destructive depression rather than to benefit from mild but not aborted corrective recession.

Civic Firsts

American cities point with pride to all sorts of distinctive data about themselves. One of the ways to be outstanding is to have been the first community to have done something, whether it was to hold a legislative assembly or to organize a raffle. Here is a list of a few civic firsts, in which the obscurer towns come out very well in comparison with the better-known cities.

First Inland City	Lancaster, Pa.
First Permanent Settlement	St. Augustine, Fla.
First Street Lighting	Philadelphia, Pa.
First Natural Gas Illumination	Fredonia, N.Y.
First Glass Factory	Jamestown, Va.
First Oil Well	Titusville, Pa.
First Academy	Boston, Mass.
First College	Cambridge, Mass.
First Capital	Philadelphia, Pa.
First Land Grant College	East Lansing, Mich.
First Lake Port	Fort Niagara, N.Y.
First Coeducational College	Oberlin, Ohio
First Printing Press	Boston, Mass.
First Railroad Terminal	Baltimore, Md.
First Legislative Assembly	Williamsburg, Va.

Productivity

And The Efficient Use of

Scarce Resources

BY ERIK LUNDBERG

International price formation for small countries

IT IS OBVIOUS that the continuous rise in the standard of living of our country, however we measure it, is dependent on a steady increase in productivity. A high level of productivity and a high standard of living go together; indeed we can even say that they are really the same thing looked at from different points of view. Total production in Sweden, that is, the gross national product at constant prices, has increased by 60 - 70 per cent since the end of the 1930's, and the total input of labour by the working population has at the same time only risen by about 10 per cent. We say therefore that labour productivity within the economy has increased by 50 -60 per cent higher production per unit of labour input than was the case 20 years ago, or that we can achieve the national product of 1938 with one third less effort. At the same time, this increase in productivity means that the real national income per capita has increased by about the same amount, and this is equivalent to a rise in the standard of living in a wide sense.

Statistical measures of this kind are obviously extremely unreliable, both on purely conceptual grounds and as regards statistical precision.

The total production of society as recorded in national income estimates obviously includes not only production in the narrower sense of industry and agriculture, but also all kinds of service in trade, transport, and government activity—everything which as individuals we are obliged or prepared to pay for with varying degrees of willingness. From the income, or standard of living side, we take into account in a per capita estimate of the national income not simply the pleasures we might get out of government administration but also the increase in the property of companies, the Government, and local authorities. We also ignore the complication that certain groups in society have obtained considerably larger increases in real income than others during the period considered, i.e., the distribution of income has changed, and we also ignore the fact that productivity trends have been extremely unevenly distributed throughout the different sectors of the economy, with very large increases in some sectors and even declines in others.

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The need for comprehensive index figures for production and income which provide a summary is understandable, since the alternative is to get lost in a sea of detail. But there are also considerable risks in making drastic statistical generalizations. Politicians and economists sometimes forget that the statistical world, fashioned by diligent national income statisticians, is an abstract and hypothetical fiction, which we certainly require for general surveys, not to mention lectures and articles such as this, but which gives only a very narrow perspective of "the real world".

However, we can sub-divide the results of production and form a somewhat more concrete impression of what the increase in productivity means. In industry the volume of production has doubled since the end of the 1930's, labour input has risen by one-third, and so productivity has increased by over 50 per cent. The figures available for agriculture show that the number of people actively employed has fallen by 40 per cent during the same period, and yet production has increased, so that productivity has risen by no less than two-thirds.

It is of course possible to obtain a still more vivid impression of the rise in productivity by taking rather extreme concrete examples and comparing them over a longer period of time. Gerard de Geer shows in his "Bergslags Rhapsody" how the individual tractor driver of today builds more roads than 60 roadmen armed with spades, shovels, picks and barrows did at the turn of the century. The same source states that there has been an enormous rise in productivity in methods of mining ore, the number of yards drilled per shift having increased fifteen fold in a few decades. A hundred times as much steel is rolled per working hour nowadays, and five times as much sawn timber and pulp is produced in the forest industries per hour, as was the case at the turn of the century. There are countless similar examples in other sectors as well. It is not simply a question of enormous advances having been made in the efficient utilisation of labour, for the same thing applies to the progress which has been made in our ability to utilise the natural resources of ore and timber in the country, and in the methods of economising with imported fuels and raw materials. Thus it is rather striking that the doubling of industrial production since 1939 has only led to a 20 - 30 per cent increase in the volume of fuel consumption.

CRITERIA FOR HIGH PRODUCTIVITY AND EFFICIENT ECONOMY

The total increase in productivity discussed above is the result of all the productivity rises throughout the years at a number of sectors in the economy. However, this is not simply a matter of simple addition, but a process of development—a series of causal reactions. An increase in production at one point in a production chain sets off reactions at earlier and later stages in the chain. For example, the shortage of certain semi-manufactured goods or raw materials has forced engineers to make an effort to solve bottleneck problems, and thereafter a successive increase in the supply of those products has opened up new possibilities for uses which bring about increases in productivity at later stages in the production chain. It is a question of cumulative processes, where progress in technical "know-how", in the application of new technique via new methods and new types of goods, is continually opening up broad avenues for further increases in productivity. The result of this development process is, in the last resort, simply ever-increasing efficiency in the use of our manpower and natural resources.

The interesting *economic* problem here is the manner in which these productivity increases are sifted and selected, the criteria we use in economising our productive resources. Purely technical knowledge, the possibilities of

obtaining a greater output from a given input, is generally far in advance of its actual application in the economy. Already there are significant differences in the use of modern techniques between the most progressive and the most backward firms in a particular sector, and in some cases manufacturing processes are also more efficient technically in the most advanced firms in Germany or the U. S. A. than they are in Sweden. But the productivity which is possible in the light of the technical knowledge available at the present time lies considerably in advance of the actual application of this knowledge even in the most progressive firms.

In other words, there are tremendous possibilities for increasing productivity further, for making still more effective use of our resources than we do at present, and every advance widens the field of application further. The breathtaking vision offered by the age of automation, the calculating machine, and atomic energy have banished the pessimism about the technical basis of progress which has been prevalent in certain eras. I am thinking here of the stagnation pessimists of the 1880's and 1930's, when economic experts believed that technical progress was in the main at an end, had matured, and that the economies of the West would stagnate.

The economic problem is concerned with this choice between the various alternatives for increasing productivity, and for making more efficient use of human and other resources within a firm, a sector, and the whole economy during a particular period. Some criteria are necessary for what alternative gives the best results. Moreover, it is a costly business to economise in the use of factors such as capital, managerial and engineering skills, which are extremely scarce resources. The best criterion we have at present in our capitalist economy for the efficient use of resources is that the input of factors should produce a high yield or profit. In large sectors of the economy an assessment of the profit expectations is a criterion for choosing projects for the purpose of increasing productivity. The likely profits are estimated on the basis of the prices and wages which are determined in more or less efficiently-functioning markets. The scarcest resources are the most expensive, and the efforts of business firms to economise are directed primarily towards these factors.

PROFIT CALCULATION IN A MARKET ECONOMY

The prices of goods and services which are determined in reasonably stable and efficient markets are loaded with essential information for the firms which utilise or sell these resources. The prices of goods provide information, at least in the long run, about the total cost of producing these goods, not simply in terms of the direct labour costs, but also in the terms of resources of material, fuel, and capital. On reasonable assumptions, these costs indicate what the resources would be worth in alternative uses, i.e., the prices indicate the economic cost to society of these resources being used for a particular purpose. If an entrepreneur can use the resources in question more efficiently than for other purposes, the profit calculation should show the value of the total resources saved. If another alternative yields a higher profit on the capital invested—e.g., less fuel consumption or lower requirements of labour—the choice of this alternative means that more productive resources are saved and freed for other purposes. The essential point is that the profit calculation takes account of the value of all the productive resources used, directly or indirectly,—not simply labour, as in simple productivity calculations—and the cost of these resources is assessed as an opportunity cost according to their value in alternative uses. At the same time the prices of the products are influenced in the last

resort by the consumer's valuations of the utility of the products for production and consumption purposes. A rise in the price of certain resources would normally be interpreted as a sign of their increased scarcity, leading to intensified efforts to economise in their use, and to the elimination of the uses which are least essential at the margin in the light of the profit criteria. The continuous general growth in productivity which I mentioned by way of introduction is expressed in a steady upward movement in the level of real wages. The price of labour tends to rise relative to the price of machinery and other productive resources, with the result that the profit calculations indicate profitable rationalization: i.e., the substitution of machinery for labour leading to a continuation of the growth in productivity.

The mechanism of our economy is far too complex to allow any detailed central supervision. The mutual contacts between firms, and contacts with the consumers in markets with free or relatively free price determination, represent forms for the division of labour, specialization, and decentralization which we have reason to believe are relatively efficient from the point of view of high productivity and the efficient use of scarce resources. The whole thing can be said to work like a huge electronic brain—constant feeding in of new data about technical innovations, investment decisions, new requirements of consumption goods, etc., which are translated via the market mechanism into prices and price changes which carry the information. Millions of equations are solved simultaneously and successively, and new programmes which emerge from the solutions are fed in in an ever-growing stream.

IDEAL AND REALITY IN THE PRICE MECHANISM

It is easy to paint a utopian and very unrealistic picture of the market mechanism operation. It is tempting to identify "should" with "is". Adam Smith is full of shrewd dicta about the imperfections of economic reality. His wise and cautious exposition of the doctrine of economic liberalism has many formulations, and the following quotations seem relevant in this context: "What is prudence in the conduct of every private family (and business) can scarcely be folly in that of a great kingdom". "By pursuing his own interest he frequently promotes that of society more effectually than when he really intends to promote it." The harmony of interests between the welfare of the business man and of the private individual does not occur automatically in Adam Smith's philosophy. We can only argue—today as 200 years ago—that the prospects of obtaining satisfactory solutions to the problem of economising in the use of society's scarce resources are considerably better if we create a favourable climate for effectively functioning markets, with competition and decentralized price determination, than if we try to solve them by various forms of central concentration of power for directing the nature of production and the use of resources. Obviously, such an attitude must be qualified. There are indeed large areas under public administration for which no one would wish to recommend a market economy. But there are also boundary cases where there are differences of opinion as to the most desirable type of economy, e.g., in banking and housing.

A market economy functions effectively only under certain important conditions. There is no denying that monopolies and cartels can have a seriously distorting effect. There must also be a reasonable degree of stability in the system. An inflationary situation with excess demand, or a depression with excess capacity, undermines the working efficiency of the pricing system in various ways. In inflationary conditions far too many projects ap-

pear profitable. Price rises do not promote better economy but, on the contrary, tend to give rise to speculation on continued price rises, and this has destabilising effects. Profit calculations in times of inflation therefore give a poor guide to what is good economy. In a number of cases the Swedish economy is also suffering at present from the consequences of incautious investments which were made during inflationary optimism, but which now are seen when the economy is in a balanced state to be unproductive uses of scarce resources. A lack of stability in the whole economy is accompanied by errors in calculations. During a depression, with excess capacity and unemployment in different sectors of the economy, it is also easy for markets and pricing to give misleading guidance. Economy in the use of scarce resources is unsatisfactorily directed when, because of bad times and low profits, firms are forced to save resources which are in actual fact abundant. Private investment activity is held back because the prospects of profitability are poor in the short run. In such a situation, an expansion in the activity of the public sector, which is not governed by the market mechanism, may become necessary in order to keep unemployment at a low level. But experience shows that expansion of this kind can very easily become permanent, with the result that in the longer run productive resources may become badly allocated.

In conclusion, let me take up two important problems which are of great importance for the ability of the pricing system to act as a guide to the efficient use of scarce resources. The first problem concerns the inescapable complications which arise because the future is uncertain, and the second the obstacles which the Government puts in the way of an effectively operating market economy.

UNCERTAINTY ABOUT THE FUTURE

The estimates of profitability which are made by a firm for the purpose of obtaining some guide as to productive investments often have to be made with a long-term view of an uncertain future. It may be hazardous or even senseless to base such calculations on prevailing costs and prices. The sort of questions that must be answered in the interests of the efficient use of resources are: what will be the level of wages, the price of electric power, the costs of fuel, in 5, 10 or 20 years' time? The existing prices and trends may be misleading. The most profitable investments, and those which therefore promote productivity most, are for example determined by a reduction in wage costs, and increases in the cost of machinery and power, which refer to wage rates, and machinery and power prices, ten years from now. No one knows with certainty what the prevailing prices will be so far in advance. In this respect the phrase which is often a great comfort to economists is very apposite: "It is better to be vaguely right than precisely wrong." Profitability calculations are made within wide margins of uncertainty, or an entrepreneur in a new line of business must trust his hunches, and perhaps rationalises decisions he has already made by "precise" calculations which are useful for persuading board members or bank directors. Still, we are inclined to believe that bold initiative in making decisions on the basis of uncertain and inadequate data, which is the very essence of business acumen, of a number of mutually independent units steered somehow by a palpably imperfect market mechanism, gives better results than do centralised decisions in a regulated economy where profitability criteria are mainly lacking. Competition in a market economy brings out keen initiative in order to achieve higher productivity, while at the same time it tends to purge the sys-

tem of uneconomical or unsuccessful projects, irrespective of whether the entrepreneurs in question have been inefficient or just plain unlucky.

SYSTEMATIC FLAWS IN THE CONDITIONS

I have been arguing that the efficient use of scarce resources is based on a fairly effectively operating price mechanism. Prices, wages and interest rate data should be loaded with information about the real costs of using scarce resources. Calculations of profitability, which give an order of priorities between different projects for improving productivity, should be comparable throughout the areas of the economy affected, and should also correspond fairly well to the productivity gains of the economy as a whole. Apart from the various kinds of imperfections and distortions in the price mechanism which have been mentioned, there are also some systematic errors in the conditions underlying price determination for which the government is primarily responsible.

Without going too deeply into the causal relationships here, let me illustrate the nature of these "deliberate flaws in the conditions" with some examples. Our steeply progressive tax system gives rise to large gaps between the social value of a productive performance and the net value to the individual who does the job. The structure of company taxation means that the privately estimated costs of investment and other outlays will differ drastically from the costs to society, according to the methods of financing and the concessions allowed for taxation purposes. There is often a considerable gap between the net return, after taxes and with allowance for the general price rise, to someone who saves via a bank or insurance company, and the contribution (before tax) which these savings make to the national income when they are invested. In the post-war period the level of interest rates has, as a rule, been held considerably below its equilibrium level, which has meant that the prices of goods and services which require large investments of capital, such as housing and electric power, are lower than the real costs to society. Indirect taxes and subsidies cause further price distortions at various points, and, last but not least, tariffs and import restrictions put considerable obstacles in the way of international competition and imply disturbances to price formation between countries.

SOME PRECONDITIONS FOR EFFECTIVE ECONOMISING

At every point where effective price determination is seriously impeded, where taxes, tariffs and regulations of various kinds create gaps between what a thing really costs and what the seller receives and the buyer pays, errors arise in the profit calculations as regarded from the point of view of society as a whole. As a result scarce resources neither are nor can be put to the best possible use. In other words, a reallocation of resources which reduced or eliminated the price gaps would yield gains in productivity. In many cases, however, the target of economic policy is, quite correctly, the prevention of a more economical use of resources in order to attain other social goals, e.g., a more just distribution of income. To take one striking example, we are prepared to accept the economic costs to society of the tremendous gap between the receipts of the manufacturers of intoxicating liquor and the prices the consumer pays for alcohol. In other cases, however, I am certain that the goals of social policy and income redistribution could be attained without the considerable disturbances in the conditions for an effective functioning of markets which occur at present. I am also convinced that methods of operation more in accordance with the market mechanism

could be introduced into parts of the public sector, and lead to greater economy in the use of resources.

For a small country like Sweden, the efficient use of productive resources must depend to a great extent on the possibilities of maintaining and increasing foreign trade, and thus be based on extensive international division of labour. It is only through foreign competition in domestic markets, and the specialisation which is made possible by large European and other markets, that a small country can achieve an effective functioning of the price mechanism, a rapid rise in productivity. An efficient process of international price formation requires a minimum of customs duties and other impediments to trade, and exchange rates which are in accordance with market criteria. A large number of businessmen, importers, exporters and producers, are constantly making profit calculations in order to judge the prospects for new exports and imports. This means more efficient use of scarce resources and higher productivity, *provided* prices in foreign trade are loaded with reasonably correct information about comparative costs in different countries. This gives rise to the gains from international trade, which in most cases is equivalent to greater efficiency in the use of one's own as well as other countries' productive resources. The possibilities of gains of this kind arising from foreign trade are ill served in a world of high tariffs, exchange controls, and other obstacles to trade between countries, particularly if differences in the state of business conditions create unstable markets as well.

Technology and the World Ideological Conflict

In the following excerpt, a top executive of one of the world's largest manufacturing corporations stresses the importance of paper as a weapon in the war of ideas.

It has become apparent in recent months, particularly among what are called the uncommitted nations, that the ideological conflict is being increasingly pressed forward by economic means. It seems to me to be of the highest importance that this should be promptly recognized, for if there is one lesson to be learned in our time it is that we live in the century of interdependent man.

Surely the technical resources of the West, which have already done much for underdeveloped countries, should be applied with even greater drive and generalship if our equipment, materials and know-how are permanently to raise the standards of living of the uncommitted peoples. It is relevant to mention that a recent investigation by UNESCO reveals that there are 700 million illiterate adults in the world.

It is better to flourish goods than guns, and in the present struggle of conflicting ideas paper is one of the vital weapons against ignorance and poverty.

From a speech by Sir Eric Vansittart Bowater, Chairman, The Bowater Paper Corporation, Limited, May 29, 1958, in London. Reprinted by permission.

Seventeenth Century Projections

The experts employed by Hollywood motion picture producers who recently put in the mouth of Henry VIII (in a film version of Shakespeare's play) the words: "my little kingdom of three million inhabitants," were on reasonably firm statistical ground. But how could Henry VIII have been aware of figures concerning population which have been derived from old records only during the past hundred years? And even if he had had an inkling of the number of persons in the kingdom, he was hardly quantitative-minded enough to express himself like a modern Chancellor of the Exchequer. Students of economic history, seeking the origins of statistics as a learned discipline, are now inclined to trace the beginnings of the subject back as far as the second half of the seventeenth century. At that time, a number of persons in England, among them Sir William Petty, who was born in 1623, and Gregory King, who was born in 1648, began to compute out of curiosity (and no doubt also because of the contribution that it was coming to be believed the knowledge might make to economic policy) series of figures for periods of years concerning population, trade, the national consumption of food and drink, the national dividend of goods and services. They began to work out rates of growth (*taux d'accroissement*) and to project them into the future. For example, Petty estimated in 1682 that if the population of London and that of England and Wales continued to increase at the rates which he thought prevailed in the seventeenth century, by 1840 practically the entire population of the kingdom, which he predicted would then be 10,917,389, would be living in the city! So he predicted further the growth of the city would stop before 1800 when London would have rather more than five million inhabitants! This is not a startling example of prevision, but early twentieth-century statisticians have not done much better with their demographic predictions.

From *Cultural Foundations of Industrial Civilization* by John U. Nef. Cambridge, the Cambridge University Press, 1958.

The crisis in automobile sales calls for long-range reappraisal of the industry's research methods.

Automobile Marketing Mysteries

BY D. J. LUCK

AUTOMOTIVE EXECUTIVES, with very few exceptions, must view the passing of the 1958 model year without a trace of regret. If they complained that the year had brought them injury compounded with insult, one could hardly blame them.

The low sales level of the year—following two so-so years and dropping some 42 per cent under glorious 1955—has been, of course, a blow to the industry as well as to Michigan. Equally shocking to the industry's leaders must have been a number of accusations that charged them with a major responsibility for the recession and with all manner of mistaken decisions. Many of the sensational statements, coming mainly from Eastern cities, may have been recognized as grossly exaggerated by those living in the Detroit area. Some of these criticisms, however, are sufficiently close to the truth for us to question our assumptions that the industry will continue to enjoy the vast and growing market of yesteryear.

Such challenges to the automotive industry must be of the deepest concern to anyone living near and dependent upon it. The writer is confining himself to appraising a single one of the allegations: that the industry has failed to acquire and use adequate facts about its marketing situation, present and future, and particularly about the needs and wants of the public. Unquestionably the industry's future lies in stimulating and satisfying the market, and so we are confronting a truly fundamental criticism.

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THE RELUCTANT BUYER

The market trends of the industry should be noted briefly to point up the significance of our subject. How successfully has the industry attracted consumers' dollars in recent years?

In this brief analysis, let us exclude both 1955's bonanza of 7.7 million sales and 1958's relatively dismal record as abnormalities, considering instead the two pre-1955 and two post-1955 years. The record shows that 1953-54 unit sales were about 5.8 million units per year and the 1956-57 ones were about 5.9 million. Current predictions for 1959 suggest that the greatly restyled and redesigned new models will sell slightly below the 1957 level. This appears to offer a record of *no growth* over a seven-year span.

Meanwhile there has been ample basis for increased new car buying. Considering only the 1953-54 versus 1956-57 averages, the number of persons in the nation grew by over 8 per cent. In the same period the average

incomes for each of those persons, on a constant dollar basis (ruling out inflationary effects on buying power) grew about 7 per cent. And people were spending many of these added dollars on automobiles.

This dormancy of automotive demand profoundly disturbs thinking people in Michigan. Pressing questions come to mind, questions difficult to fathom. Are automobiles permanently losing their primacy among consumer desires, or is the trend only temporary? What motivates such a changing attitude, and how can it be influenced? What do people really want in a car? Exactly what do the rising imports of foreign cars portend? And so forth.

Questions like these require vastly more than quick judgment or armchair thought. Very intensive marketing research followed by its full use on the part of management is critically needed at this juncture. That is why we should inquire whether this past year's criticisms are in fact justified. First let us consider what has been done in automobile companies' marketing research in the very recent past.

It should be stressed that nothing in this article is to be construed as applying to any single company, despite the author's association with one manufacturer. The intention is to typify the major firms.

PRESENT RESEARCH ACTIVITIES

Merely to enumerate the kinds of marketing research studies carried on in one or another of the automobile companies and the many sorts of facts obtained is quite impressive. While it is not possible to place them in the exact sequence of either the expenses involved or their importance in the eyes of management, the following enumeration will provide a general idea.

Sales analysis. If there is any type of marketing intelligence in which the industry has approached the ideal, it is in keeping on top of the current sales. Each company has long had nationwide machinery for compiling and funneling sales data to Detroit. Surely no other industry can tell you on Tuesday its exact volume of unit sales *at retail* on Monday. Over ten-day intervals there are accumulated great sales details, district by district, that are distributed from national headquarters to manufacturing, sales, employment, financial and other operations.

With only slightly more delay data are obtained on how competition has sold, by make. Then registration data arrive, in any desired detail. These may show, town by town, how your make has fared against others. Of great interest is the loyalty shown by your former owners who repurchase your brand, as well as the "conquest" sales you make to former owners of competitive brands. Current data on used car sales and on exactly what cars are in dealers' stocks are likewise reported quickly.

New model acceptance. Each manufacturer's avid curiosity about public reactions to his entries in each annual sales race has led to considerable research. From the first showings to dealers and well into the model year, various formal and informal measures are taken of both the extent of approval (or the contrary) and specific features that lead to such opinions. In this and some other types of research, the manufacturers are aided by substantial studies carried on by advertising media and agencies.

Owners' experiences and attitudes. The industry has long recognized that a satisfied owner is the best advertisement. It is seriously concerned, whatever scoffers may say, with offering the best design and quality consistent with the price. Therefore repeated surveys of own-make and competing-make owners is one of the most absorbing types of marketing research.

Advertising studies. With its major firms among the nation's largest advertisers, the automotive industry is served by practically every existing means of testing advertising impact and appeals. Since the agencies tend to eye these big accounts hungrily, they vie in furnishing maximum research service. Although unknowns still abound in advertising, as its specialists well know, the automobile industry stands well in this area as compared to other industries.

There are other directions of research where much work has been carried out, but where definite answers are still unfound. One such area includes pricing surveys and tests. Another comprises prospecting devices and the yardsticks for measuring buying potential. There are also general buying intention measurements, requirements and locations for dealers, practices of successful dealers and local testing of various promotional ideas.

Taken together, these make up a complex research operation. Indeed, the multiplicity of the studies sometimes exceeds the capacity of the companies' research staffs to interpret them or the executives' opportunity of digesting and applying them. Despite this great body of research, there is not the slightest basis for complacency with the industry's present understanding of its markets and their needs because: (1) a number of other industries are better equipped with marketing research and (2) some of the most crucial questions still are not being answered.

TOMORROW'S MARKETS

There are at least four problem areas of vital significance for the continued prosperity of the industry that have not been mentioned above as constituting a substantial place in its current marketing programs. Their importance is self-evident.

What is motivating today's consumers relative to automobiles? The answers to this question should be the cornerstone of the entire marketing policies of the manufacturers. Naturally they have been concerned with the answers for some time, but studies so far have brought little more than superficial generalities. Allied is the question of why people are buying other things and what could revive the former level of interest in automobiles. These admittedly pose a terrific challenge to research.

What are their buying intentions? The forecasting of automobile demand has been receiving much attention in automotive circles, including efforts to find the answer from the consumer himself. Progress has been so slow, however, that the problem should be on our unsolved list.

Specifically what sort of car will people want to buy? Here is the greatest question and the greatest challenge of all. The industry has found to its regret that the best of styling, engineering and merchandising brains cannot foresee what the customer will buy. Obviously some of the contemplated plans are going to have to be revealed to some bona fide customers, and some yet-to-be-perfected research calipers applied to their reactions, if tomorrow's car is to be what tomorrow's prospects want. As the consumer has been a fickle fellow lately, this would be a major feat of research.

How will people want to buy their cars? That automobile dealers are not serving the public in the most pleasing or profitable ways is quite apparent, especially to the intelligent dealers. Many of them agree with many consumers that horse-trading should have gone out with the horse. Not much has been done either to find what dealers should do or how to make such practices effective at the dealer level.

Why have the manufacturers not found the answer to these questions al-

ready? Their marketing research staffs may be partially responsible. It is natural, when certain types of studies have been liked by management, to continue to concentrate on them rather than to attempt much pioneering. They have been undermanned and underfinanced, with perhaps one man to each hundred or more in engineering research. Short deadlines and inadequate funds much too often have resulted in sketchy planning, failure to pretest sufficiently, and use of inadequate samples. Creative and imaginative research cannot live in this meager atmosphere.

Some of the fault inheres in the nature of automotive management. The top executives tend to be men of financial, manufacturing or engineering backgrounds, as the stress has been on designing a good car and building it efficiently. At this high level, sales executives are fewer than the industry's present marketing plight demands. These executives themselves are not often trained in making comprehensive analyses. Their backgrounds tend to be in the field sales organizations, where they probably lived from one ten-day report to the next, facing the innumerable immediate problems rather than taking the longer view. At the national level their industry is locked forever into the short cycle of annual model changes and the pressure of immediate concerns. The need is for a new management conception of the potentialities and use of marketing research.

A final reason is largely responsible: research methods in marketing have not yet been sufficiently tested and proved for them to give dependable answers to these questions. Their development must be painstaking and patient; the growth process calls for considerable forebearance on the part of management, and recognition that such basic studies are not certain of success.

The marketing crisis should justify large-scale investments. If the companies, in the aggregate, allotted $25 million to these problems, this sum would only be around one-tenth of one per cent of sales. As this is substantially more than the industry now spends all together on marketing research, a broad new concept of both the problems and the role of research would have to underlie a decision to make this investment. If such an expenditure would minimize the risk of failing to produce the cars wanted by the public and of failing to persuade the public that it should buy new cars and second cars, it should require no argument to win the industry's approval. Money is of course only one element; other essentials are the mobilization of capable research talent, patient forebearance in allowing the needed time, and readiness to accept the results. The only other alternative is to design and market cars on the basis of stereotypes and guesswork—and the dangers of the latter course are now all too evident.

So lengthy is the time from drawing board to showroom that even a crash program could not reach fruition until the 1962 models. It is to be hoped that the need for such a program will be fully recognized by automotive executives as well as by the millions who drive cars or are dependent upon a prospering automotive industry.

ON THE ADMISSION OF A NEGRO STUDENT TO HARVARD, and the protest this admission aroused:

If this boy passes the examination he will be admitted; and, if the white students choose to withdraw, all the income of the college will be devoted to his education.

EDWARD EVERETT, President of Harvard, 1848

Nonproduction Manufacturing Employment and the Recession

BY JOHN P. HENDERSON

Is the recent change in employment ratios a secular or a cyclical one?

THE MOST significant change in the economy's basic employment pattern in recent decades has been the growing numerical importance of the service industries. Due to the accelerated decline of agricultural employment which has occurred since World War II, a secular drift to the service industries has been accentuated, and the number employed in goods production has declined significantly. Between the third and sixth decades, the proportion of workers producing goods dropped from 62.3 per cent of total employment, in 1919, to 45.7 per cent in 1957. Between 1946 and 1957 agricultural employment declined by two million. Not all of the recent shift to the service industries is due to secular influences, however; for the years 1954-1957, it seems clear that boom conditions gave added impetus to the changing pattern of employment, as more "do-it-for-me" services emerged from the "expense account life." However, whatever the cause, it is clear that an increasing number of workers are dependent, and will continue to be dependent, upon service occupations. The distribution and sale of goods now absorbs a greater number of workers than does their production.

Within the manufacturing industries themselves a similar pattern has emerged, because of the marked growth in the number of service-connected employees.[1] Especially since 1954, there has been an unprecedented increase in the number of workers engaged in nonproduction activities, while the number of production workers has actually declined. The degree of this change varies, of course, from one manufacturing division to another. In the electrical machinery industry, for example, nonproduction employment represented 30.0 per cent of total employment in 1957, while textile mill products had only 9.1 per cent of its employees in

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[1]As is the case with the increase in the importance of the service industries, the recent increase in the importance of nonproduction employment has a secular component stretching to the 19th century. See Seymour Melman, "The Rise of Administrative Overhead in The Manufacturing Industries of the United States, 1889-1947," *Oxford Economic Papers*, February, 1951, pp. 62-112.

such occupations. But despite individual industry differences, there has been a general rise in the proportion of manufacturing employees that perform services, as opposed to being involved in the direct production of goods.

Since World War II, there has usually been an annual increase in the number of nonproduction employees in manufacturing. With the exception of a slight drop in 1949, the amount of indirect employment has increased consistently, while production employment declined in 1952, 1954, and 1957, as well as in 1949. Between 1946 and 1957, the number of nonproduction employees rose 64 per cent while production workers increased only 7 per cent. To a large extent, different rates of growth for these two types of manufacturing employment were to be expected, because the ratio of nonproduction employment was lower at the end of the war than at any time since the 1920's. By 1953, however, the ratio for nonproduction employment had regained the lost ground of the war period and stood at the approximate average of the 1920's. From the experience of the 1920's, moreover, one would have expected nonproduction employment to become synchronized with manufacturing production employment, albeit with a lag at the top and bottom of the business cycle. What has surprised researchers, however, is that, between 1953 and 1957, while production employment declined, nonproduction employment continued to rise. Many writers claimed, accordingly, that nonproduction employment had become impervious to cyclical activity, and that the previous synchronization of production and nonproduction employment was of historical interest only. Representative of this approach was a discussion in *Fortune* of the changing pattern of manufacturing employment, in which it was claimed that:

> The changes in the structure of the labor force reflect the remarkable changes taking place in America's social structure. These are long range basic changes that will be little affected by transient dips in employment created by business downturns. American society is becoming heavily weighted toward the middle class, not only in its psychology, but in occupational status as well.[2]

Such enthusiasm for the new way of life seems somewhat unwarranted, especially if account is taken of the specific industrial nature of the areas where there have been recent increases in the number of non-production workers. But more important, monthly data for the period of the recession that began in 1957 reveal that nonproduction employment has, in fact, declined. Although the recessions of 1949 and 1953 had little effect upon the volume of indirect manufacturing employment, the recent record is markedly different. In addition, when account is taken of the industries where growth occurred, associated as they were with the recent plant and equipment boom, it is questionable how much of the increase in nonproduction employment is permanent and/or insensitive to "transient dips in employment."

As the following discussion suggests, several factors are responsible for the drift to higher proportions of nonproduction employment. Also, several economic consequences follow from these changes in the labor mix of the manufacturing industries. The ebb and flow of these causes and effects, however, are best analyzed against the background of the definitions used by the Bureau of Labor Statistics to classify workers according to direct or indirect contributions to factory output. Moreover, definitions make it possible to distinguish between distinct cyclical and secular influences upon the upsurge in the number of nonproduction workers.

[2] "A New Social Revolution", *Fortune*, April, 1958, p. 218.

Who Are Nonproduction Workers?

Distinction between production and nonproduction employee classifications are, of course, somewhat arbitrary. The category of nonproduction employment is actually residual, since it includes everybody who is not a production worker. But broadly speaking, nonproduction workers are engaged in administration, research, selling and record keeping.

Production workers, according to the Bureau of Labor Statistics, are working foremen and nonsupervisory personnel engaged in fabricating, processing, assembling, inspection, receiving, storing, maintenance, repair, janitorial work, products development, and auxiliary production for the plant's own use. Record keeping and other services *directly* associated with production are also included.[3] By a process of elimination, nonproduction workers are those in executive activities, as well as in purchasing, finance, accounting, legal, personnel, cafeteria, medical, professional, and technical fields. In addition, workers engaged in sales, sales delivery, advertising, credit, collection, installation and servicing of the plant's own products, routine office work and factory supervision are also classed as nonproduction employees. In addition, employees in force account construction (that is workers engaged in the construction of major plant additions or alterations) are included in the category of nonproduction employment.[4]

In grouping these nonproduction activities, four categories are dominant: (1) administration, (2) sales, (3) employee services, and (4) force account construction. Administration (1) comprises executive, accounting, technical, legal, financial, personnel, professional and routine office activities. Sales activities (2) include employees in credit departments, purchasing, bill collection, advertising and sales-delivery (route men). Cafeterias (in-plant feeding), and on-the-job medical care are employee services (3).

The BLS statistical method precludes the possibility of differentiating the number of workers in each of the four dominant categories. It is safe to assume, however, that several categories reflect a persistent long-term rise in the importance of this type of work, while others are of a more sporadic nature. For instance, employee services such as in-plant feeding and medical care are of relatively recent incidence, their importance being more pronounced in the 1940's and 1950's than in the pre-war period. Sales activities, on the other hand, were essential to the distribution of manufactured goods even in the 1920's. While there has undoubtedly been a rise in the number engaged in sales, the category is not new in the same sense as cafeteria and medical employees.

Force account construction employees are classed as nonproduction workers, but for different reasons than white collar workers engaged in sales, administration, or research. The former are actually involved in the production of goods rather than services, and are classed as nonproduction only because they are not directly associated with the production of the company's product—only the construction of its new plant and equipment. In a period of rapid plant expansion, such as 1954-1956, the inclusion of force account employees undoubtedly accounts for some of the rise in the ratio of nonproduction workers. Moreover, this category reflects the fact that many business firms found it advantageous to include such employees on their own payrolls rather than use a sub-contractor. In any event, it is reasonable to assume that a sizable portion of the nonproduction group was made up of employees involved

[3] "Techniques of Preparing Major BLS Statistical Series", Bulletin 1168, Bureau of Labor Statistics, *U. S. Department of Labor*, Washington, D. C., Gov. Printing Office, 1954, p. 43.

[4] "Nonproduction Workers in Factories, 1919-1956," *Monthly Labor Review*, LXXX, No. 4 (April, 1957), p. 435.

in building new facilities, and that such employees were so occupied directly because of the capital boom.

In addition to the force account construction employees, there were thousands of research workers and engineers who also owed their employment in the 1950's to the capital expansion of that period. The heavy concentration of the industries where nonproduction workers were added between 1954-1957, suggests that much of this employment was also boom oriented. Although it is generally true that there has been a secular rise in the number of service employees in manufacturing, still it is important to identify the cyclical influences of the more recent period.

"Recent" Changes in Nonproduction Employment

By the end of World War II, as Chart I suggests, the expansion of nonproduction employment had not kept pace with the advance of production workers. As late as 1947, the ratio for nonproduction workers was still out of line with the relationship that prevailed during the pre-war period, 1919 to 1941. As a consequence, a large percentage of the increase in nonproduction employment that has occurred since 1947 must be attributed to factors associated with the return to peacetime full employment production and distribution procedures. Many employee functions of administration and sales were under-staffed at the end of the war, and the nonproduction employee ratio did not reach the full employment conditions of the 1920's until 1952. In 1951 the nonproduction ratio was 18.3 per cent of total manufacturing employment, matching the lowest level of the 1930's; in 1952 the ratio was 19.5 per cent, the approximate average of the 1920's. The 1948-1949 recession was somewhat atypical in that the production-nonproduction ratio had not returned to its previous historical level, with the result that this ratio rose because of the recession effects, as well as the attendant push toward normalcy.

As the foregoing suggests, it is misleading to use 1947 as a benchmark for measuring the amount of increase in nonproduction employment as some writers have done.[5] It is misleading, since in 1947 the relation between the number of nonproduction and production workers was still being affected by war dislocations and their indirect effects upon employment patterns. To some extent the use of 1947 has been occasioned by the fact that BLS revised its procedures at the time,[6] and by the convenience of the 1947 to 1957 period. Also the propensity to note new historical marks is not restricted to phenomena such as Mickey Mantle hitting the longest ball recorded in Yankee Stadium. The proclivity to note "new" records is also reflected in the reporting of social and economic behavior. As a part of the purported "new social revolution", an emphasis has been placed upon the changing ratio of nonproduction-production employment that is a corollary of the "new life" envisioned for the 1960's. If the employment pattern of the 1920's is ignored, it can be shown that a great change has occurred since 1947 in the proportion of indirect employment. Such reporting, however, is myopic, to say the least.

It can be seen also that the movement of the employment indices (Chart I) was the same for both the 1928-1929 and 1952-1953 periods; nonproduction employment rose faster, in each instance, in the year preceding a recession. But here the similarity ceases, since in the latter period nonproduction employment continued to rise despite the fact that production employment has not returned to the 1953 peak. As a matter of fact, 1927 is the only year

[5] "A New Social Revolution", *Fortune*, April, 1958, pp. 215-218; "Overhead Labor in Factory Work Force", *Business Record*, March, 1958, pp. 104-110, 124.

[6] In 1947, BLS started a series that disaggregated production-nonproduction employment for twenty-one manufacturing divisions. Cf. *Guide to Employment Statistics of BLS*, Washington, D. C., U. S. Government Printing Office, 1954.

prior to 1957 in which the nonproduction employment index rose while that of production turned down. However, in contrast to 1927, the 1957 rise in nonproduction employment was the continuation of a four-year trend, one in the opposite direction to the trend of production employment. The effect of these changes was that in 1953 the production employment index was 163 per cent, and the nonproduction index 167 per cent, while in 1957 the indexes were 152 per cent and 190 per cent respectively.

What accounts for the new pattern in the relation between production and nonproduction employment? What accounts for the apparent disruption in the interdependent movement of the indexes of production and nonproduction employment? It seems remiss to interpret the data as reflecting simply secular change, since such an interpretation cannot be supported by fitting a trend to the period, 1919 to 1957; unless, of course, one wishes to exclude the early 1940's as a war exception, the 1930's because of the depression, and the 1920's as being too far back in the historical record to be useful in the interpretation of the contemporary scene. If the 1947 and 1957 period is the relevant universe of exploration, the "recent" rise in nonproduction employment reflects secular phenomena. It is true, of course, that there have been many changes in the industrial structure of the economy's employment, especially if one compares the 1950's and 1920's. However, the magnitude of these changes can be easily exaggerated, since cyclical changes still are an essential characteristic of the economy's time path. The change in the ratio of nonproduction and production employment, occurring between 1953 and 1957, as was pointed out above, is largely a reflection of the recent capital boom. To some extent, therefore, the altered significance of nonproduction employment reflects cyclical phenomena.

TABLE I. PRODUCTION AND NONPRODUCTION EMPLOYMENT BY INDUSTRY DIVISION, 1953-57

(Thousands)

DURABLE GOODS INDUSTRIES

Year	Ordnances and Accessories		Lumber and Related Products		Furniture and Fixtures		Stone, Clay and Glass Products		Primary Metal Products		Fabricated Metal Products		Machinery Except Electrical	
	Prod.	Nonprod.	Prod.	Nonprod.	Prod.	Nonprod.	Prod.	Nonprod.	Prod.	Nonprod.	Prod.	Nonprod.	Prod.	Nonprod.
1953.....	180	54	698	70	319	56	460	83	1131	202	930	209	1303	405
1954.....	117	46	637	66	291	55	432	83	987	194	841	209	1152	404
1955.....	94	45	679	68	311	57	461	87	1085	199	894	215	1179	413
1956.....	83	48	672	69	319	60	470	92	1096	215	888	229	1268	448
1957.....	75	51	617	69	312	61	452	95	1079	226	886	239	1221	472
Increase..														
Decrease.	105	3	81	1	7	5	8	12	52	24	44	30	82	67

Year	DURABLE GOODS INDUSTRIES								NONDURABLE GOODS INDUSTRIES					
	Electrical Machinery		Transportation Equipment		Instruments and Related Products		Miscellaneous Manufacturing		Food and Kindred Products		Tobacco Manufactures		Textile Mill Production	
	Prod.	Nonprod.	Prod.	Nonprod.	Prod.	Nonprod.	Prod.	Nonprod.	Prod.	Nonprod.	Prod.	Nonprod.	Prod.	Nonprod.
1953.....	925	295	1543	410	244	91	413	86	1136	422	95	9	1090	96
1954.....	792	294	1327	408	225	94	382	85	1102	431	95	8	976	94
1955.....	822	302	1407	425	234	87	396	89	1097	440	94	8	984	93
1956.....	871	332	1358	472	230	106	404	95	1105	447	89	8	966	91
1957.....	861	365	1402	502	225	113	386	99	1069	449	82	11	912	92
Increase..														
Decrease.	65	70	141	93	19	22	27	13	67	27	13	2	178	4

NONDURABLE GOODS INDUSTRIES

Year	Apparel and Related Products		Paper and Allied Products		Printing, Publishing and Allied Products		Chemicals and Allied Products		Petroleum and Related Industries		Rubber and Allied Products		Leather and Leather Products	
	Prod.	Nonprod.	Prod.	Nonprod.	Prod.	Nonprod.	Prod.	Nonprod.	Prod.	Nonprod.	Prod.	Nonprod.	Prod.	Nonprod.
1953.....	1103	129	442	88	513	279	553	254	187	73	221	57	347	39
1954.....	1044	126	440	91	516	287	532	259	177	76	193	56	331	39
1955.....	1077	129	453	97	529	295	546	265	174	79	215	57	342	41
1956.....	1083	132	465	105	551	302	552	279	174	80	211	58	341	41
1957.....	1068	135	466	110	559	307	538	296	173	84	206	59	335	41
Increase...														
Decrease..	35	6	24	22	46	28	15	42	14	11	15	2	12	2

Source: Bureau of Labor Statistics.

Changes in Nonproduction Employment Since 1953

Using 1953 as a benchmark, the relevant facts and figures concerning nonproduction employment are as follows: by 1957, the number of such employees had risen 332 thousand in the durable goods sector of manufacturing, and 138 thousand in the nondurable industries. Production employment, on the other hand, declined by 631 thousand in the durable goods sector, and by 279 thousand in the nondurable sector. The total nonproduction gain was 470 thousand (an increase of 14 per cent), and a four-year decline of 910 thousand in production workers (a drop of 7 per cent): a net decline of 440 thousand in total manufacturing employment.

The 1953-1957 net changes in production and nonproduction employment for the twenty-one major divisions of manufacturing are shown in Table I, where it can be seen that the following major conclusions are pertinent.

Durable Goods Industries

In the durable goods sector, two industries (Ordnances and Lumber) show declines for both production and nonproduction workers. In each instance the demise of production worker employment exceeded that of nonproduction classifications, producing a rise in individual ratios for nonproduction employment. In addition, however, in both the ordnance and lumber sectors, there was an absolute decline in nonproduction employment. The steady demise of ordnance employment is undoubtedly associated with the end of the Korean emergency, with this division losing 63 thousand in the single year 1953 to 1954. The decline in lumber employment, occurring mainly in the logging and sawmill industries, can be accounted for by the cyclical decline in residential construction, which started in 1955.

Three industries accounted for 70 per cent of all the increase in nonproduction employment in the durable goods sector: electrical and nonelectrical machinery, and transportation equipment. If fabricated metals are included, four industries accounted for 78 per cent of the sector's net gain in nonproduction workers. The same four industries accounted for 53 per cent of the decline in production employment: these changes were responsible for a large part of the increase in the nonproduction ratio for all manufacturing employment.

Nondurable Goods Industries

In contrast to the two durable goods industries where both production and nonproduction workers declined, two nondurable goods industries had *increases* for both types of employment: paper and allied products, and printing and publishing. The latter were the only manufacturing divisions with positive changes for both employee classifications, a factor partially explained by changing demand and the increased emphasis on the selling and distribution of goods that pushed the use of newspapers, periodicals, and printing. An example of this increased emphasis is an estimate that in 1957 there were a hundred billion paper boxes consumed in the United States—meaning not only a glacier of cardboard and paper, but a printed glacier!

In addition to the two nondurable industries which recorded increases for both categories of employment, two other divisions showed substantial increases in the number of nonproduction workers. Food and kindred products had an increase of 27 thousand nonproduction employees, between 1953 and 1957, while the chemical industry added 42 thousand such workers. Altogether, four industries (paper, printing, food, and chemicals) accounted for 86 per cent of the rise in nonproduction employment in the nondurable sector. Adding these to the four dominant durable goods industries, eight industries accounted for 81 per cent of

TABLE II. CHANGES IN EMPLOYMENT, JUNE, 1957–JUNE, 1958, BY INDUSTRY DIVISION

(in thousands)

	Production Workers		Nonproduction Workers	
	1957	1958	1957	1958
DURABLE GOODS				
Ordnances and Accessories	78	68	53	58
Lumber and Related Products	627	571	68	65
Furniture and Fixtures	313	287	61	60
Stone, Clay, and Glass	463	417	97	96
Primary Metal	1,095	858	228	210
Fabricated Metal	893	772	240	232
Machinery Except Electric	1,274	1,012	486	456
Electrical Machinery	852	716	368	364
Transportation Equipment	1,404	1,081	502	462
Instruments	225	199	112	110
Miscellaneous Manufacturing	391	356	99	99
TOTAL	7,615	6,338	2,315	2,210
NONDURABLE GOODS				
Food and Kindred Products	1,053	1,039	449	445
Tobacco Manufactures	74	70	9	10
Textile Mill	914	840	91	90
Apparel	1,042	993	136	128
Paper and Allied Products	462	434	108	108
Printing, Publishing	550	541	304	306
Chemicals and Allied Products	542	502	301	306
Products of Petroleum	170	158	81	81
Rubber	197	176	59	58
Leather	327	315	41	39
TOTAL	5,331	5,068	1,578	1,572

SOURCE: Bureau of Labor Statistics.

the absolute increase in nonproduction workers for the twenty-one divisions of manufacturing.

From the discussion above, it seems obvious that the nonproduction ratio of manufacturing employment was catching up to the predepression level until about 1953. This leaves four years, 1954-1957, during which it can be said that there was an unprecedented rise in nonproduction employment, and/or a basic change in the work force of manufacturing. When the major economic characteristic of this period is recognized, with its emphasis upon a rapid expansion in plant and equipment, it seems dangerous to hypothesize that the employment changes are in any sense permanent. Of the eight industries that accounted for four-fifths of the increase in nonproduction workers, at least five (and perhaps seven) are manufacturing divisions especially dependent upon capital and plant expansion. Fabricated metals, chemicals, transportation equipment, and the two machinery industries, each in its way was tied to the capital boom. At the same time, it is doubtful whether the printing and paper industries can continue their rapid growth in the absence of further capital expansion, since even the most reluctant must recognize that personal consumption expenditures cannot long be supported in the absence of continued capital growth. In general, therefore, it is safe to hypothesize that the majority of the "recent" increase in nonproduction employment was a result of the rapid capital expansion between 1954 and 1957, rather than a reflection of any *marked* change in production techniques. There are exceptions, of course, but there is no need to deny the

influence of automated processes in order to point out that a large portion of the 1954-1957 rise in nonproduction employment was essentially a cyclical phenomenon.

The Effects of the 1957 Recession

One of the major effects of the 1957 recession has been the return of the interdependent relation between production and nonproduction employment, since both series have now turned down (Chart I). Between June, 1957 and June, 1958, for the twenty-one combined divisions of manufacturing, nonproduction employment declined by 110,000, and that of production workers by 1,540,000 (Table II). While the drop in production was much sharper than for nonproduction employment, the 1957-58 drop in the latter is the only significant decline for this type of employment in the post-war era. In 1948-1949 nonproduction employment fell by 25,000, while in 1953-1954 there was a decline of only one thousand, a change that could easily be due to statistical error, or to the rounding of raw data.

Of the 470,000 additional nonproduction workers employed between 1953 and 1957, 89,000 were cut from the rolls during the first two quarters of 1958, a 19 per cent reduction in the number of these workers. Despite the decline in nonproduction employment, however, the ratio of these workers to total manufacturing rose to 24.9 per cent in June, 1958, since production employment declined even more rapidly.

Since the burden of the 1957 decline in general employment was reflected in the durable goods sector of manufacturing, it is not surprising that this sector accounts for 93 per cent of the total decline in nonproduction employment. In fact, three industries (primary metal, machinery except electrical, transportation equipment) absorbed 80 per cent (88,000) of the total decline in nonproduction employment for all divisions. Electrical machinery, which was one of the leaders in the advance of nonproduction employment between 1954-1957, had only a nominal drop of 4,000 in the number of these workers between June, 1957 and June, 1958, a fact that suggests there was probably a dominant proportion of engineers and researchers in this industry's nonproduction work force.

Among nondurable goods industries, the changes have been small (Table II). Printing and publishing and the chemical industries showed increases, even if small. Along with the ordnance division of the durable goods sector, the former were the only areas where nonproduction employment increased in spite of the recession. The other two nondurable industries that had advances in nonproduction employment after 1953 were food and paper. Between June, 1957 and June, 1958, both of these divisions appear to have remained relatively stable.

The decline in the number of nonproduction workers, occurring as a direct result of the 1957 recession, was not, of course, as marked as the decline in production employment. The significance of the 1958 mid-year estimate for employment ratio is that there has been a break in the independence of nonproduction employment. The contrasting direction of the employment changes of production and nonproduction workers appears to have come to an end during the 1957 recession.

The phenomena of rising nonproduction and declining production employment did reflect some change in the technical composition of the manufacturing work force. This shift undoubtedly reflects a degree of long-run (secular) change toward "automation" and the upgrading of plant personnel. More capital intensive methods of production in the manufacturing industries do require an increased number and/or proportion of indirect workers. Design and

TABLE III. INDEXES OF CONSUMPTION AND BUSINESS EXPENDITURES, IMPLICIT PRICE DEFLATORS (1947=100)

	1953	1954	1955	1956	1957
CONSUMER EXPENDITURES					
Durable	111.7	109.0	110.7	111.3	115.0
Nondurable	112.9	113.4	112.5	113.9	117.6
BUSINESS EXPENDITURES					
New Construction	130.1	129.7	132.2	138.0	142.9
Producers Durable Equipment	127.8	128.1	130.9	139.6	147.3

Source: Department of Commerce.

engineering needs also add to the necessity for more nonproduction workers. Especially is this the case when the boom phase of the cycle is carried almost exclusively by investment that is oriented to new plant and equipment rather than to needs dictated by changes associated with rising consumer demand. During the late stages of the 1954-1957 boom, the softness of the consumer market for both durables and nondurables was hardly indicative of an acceleration in consumer buying. In fact, it is surprising that there was not more of an increase in the ratio of nonproduction employment, since so much of manufacturing output was geared to the industry's internal consumption of its own product. As Table III indicates, between 1953-1957 the increased output of manufacturing was primarily absorbed by intrasector consumption, rather than by increased personal consumption. With more of its final product being absorbed in new plant and equipment, engineering design and related services constituted a higher proportion of the labor input than would have been the case had the manufacturing sector been selling its increased product in consumer markets where there is less need for rapid technological innovation in design.

With the coming of the end of the capital boom it is not surprising that cutbacks have occurred in nonproduction as well as production employment. Accordingly, it is doubtful that the ratio of nonproduction labor will permanently remain as high as suggested by the data for the 1954-1957 period.

IT IS AMONG BUSINESSMEN (not all, but a few) that I find the greatest vitality of thinking today, and I like to do my thinking where it is most alive.

Mary Parker Follett

With work on major highway construction so much in evidence of recent months, we need to ask ourselves how close we are to providing an adequate road system. The facts are appalling and the blame falls uncomfortably close home.

Michigan's Future Road Program

BY GERALD W. GRAVES

FOR THE NATION AT LARGE, the motor vehicle and the highway have brought about a new way of life, affecting every citizen. They influence nearly all activities of the individual, the family and the community; they have reshaped the processes of industry, commerce, and agriculture. Unlike other forms of transportation, the motor vehicle provides *direct* access to homes and churches, schools and parks, factories and offices, farms and processing plants, mines, forests, and recreational areas.

In our own state, highways are of more than ordinary importance, for geographical and economic reasons. The overland distance from Detroit to Ironwood is about the same as from Detroit to New York. Our natural resources are widely spread over two peninsulas. Today, approximately 76 per cent of both the new materials used in Michigan factories, and the finished products, move to their destination over the highways, as do almost all of our agricultural products. Moreover, the vast majority of our $600 million annual tourist trade relies on the roads.

The transportation requirements of Michigan today are served by a highway, road, and street system totalling 108,036 miles. Of this mileage, 93,428 miles are rural, while 14,608 are in municipalities. State trunklines total 9,355 miles. The development of this great network did not come about easily or quickly, but over a long period of years. Even today there remains much to be accomplished.

MR. GRAVES is Executive Director, the Michigan Good Roads Federation.

EARLY ROAD DEVELOPMENT

Centuries ago, there were Indian trails where some of our highways now run. US 16 from Detroit to Muskegon approximates the Grand River Trail, while US 12 from Detroit to Benton Harbor follows the St. Joseph Trail for the most part. Many of the routes of state and county roads trace the path of the lesser trails.

Early Settlement Roads. Michigan's first road was constructed with Federal funds by Federal troops: it ran between Fort Meigs (Toledo) and Detroit. Begun in 1816, it was completed in 1829. By 1835, work was partially completed on connections between Detroit and Fort Gratiot (Port Huron), Saginaw, Grand Rapids, and Chicago. The territorial government was constructing a number of additional roads, also.

Plank Road Era. When Michigan became a state in 1837, the government withdrew its support of road building. As the new state lacked revenues for

maintenance, the roads soon fell into disrepair. In an attempt to meet the highway problem, the State Legislature passed a General Plank Road Act in 1848 to regulate the operation of certain chartered roads, which were required to have eight feet of their width constructed of three-inch plank, with an additional eight feet of "good, smooth and permanent road."

The Detroit to Pontiac plank road was opened in 1849, and the Detroit to Howell route soon afterward. Other shorter roads followed. However, the planks decayed rapidly, and replacements could not be made with the tolls received. Inevitably, most of the plank road companies ceased operation before the turn of the century.

County Road Systems. Aside from private toll roads, the only rural roads built in Michigan for more than thirty years after 1850 were township ones, mainly connecting the rural area and the trading center. Lack of revenues, untrained officials, and inexpert labor created problems. To deal with the difficulties and to provide interconnections, several townships in Bay County formed a Stone Road System in 1883, under authorization of the State Legislature. This unique group macadamized the main roads radiating from Bay City and West Bay City, and established a maintenance program.

Success such as theirs confirmed a growing belief that an administrative unit larger than the township was needed to deal with the pressing problems of road improvements. The County Road Act of 1893 permitted the appointment of county road commissions to plan local systems, to levy taxes up to three mills on property, and to bond with the approval of the electorate. Thirty years were to elapse before all counties adopted such systems.

BEGINNINGS OF A STATE-WIDE HIGHWAY SYSTEM

The State Highway Department. By 1900, Michigan had 68,000 miles of roads, but only 200 miles were surfaced with stone or macadam, and less than 8,000 miles were even graveled. At the urging of bicycle enthusiasts, the Legislature, in 1901, established a committee to study highway improvements. It recommended that there be a state highway department, and that the prohibition against using state funds for road improvements be repealed. Two years later the Highway Department was established by law, being specifically authorized to aid the township and county road programs. Senator Horatio S. ("Good Roads") Earle was the first Highway Commissioner, but the Attorney General immediately declared the new law unconstitutional, as no amendment had been submitted to the people. For two years, then, Earle served without pay as our "unconstitutional" highway commissioner. He toured the state, stumping for better roads and a state-aid program. Only after much legal misadventure did an amendment to the constitution authorize the state to build or aid in building wagon roads. Unanimous legislative approval and ratification by every county then followed.

A Trunkline System. Already in 1913 Michigan had 60,000 registered motor vehicles. The increased demands for highways connecting cities prompted the Legislature to establish a 3,000 mile trunkline system. To improve these routes, a "horsepower tax" was imposed. Half the revenues were allocated to the state and half to the townships and counties. However, by 1919 this revenue proved inadequate to the problems of keeping over 225,000 Michigan cars rolling. As a result, the Legislature proposed a $50,000,000 highway bond issue, in the form of a constitutional amendment, which was overwhelmingly adopted by the voters. Powers were also granted to the State Highway Commissioner to initiate and direct the construction of trunkline roads. The state was permitted to improve and maintain trunklines through

cities and villages, and to continue to grant aid for non-trunkline routes. By 1924 the entire bond issue had been spent, and almost 4,000 miles of main roads had been improved. Still road needs could not be met. Each new mile of improved trunkline generated traffic beyond expectations. Between 1922 and 1927 automobile registrations doubled, in a pattern sadly familiar today.

The Legislature abolished the horsepower tax in 1925, adopting a weight tax as the basis for determining license fees. In addition, it approved a new source of revenue, a tax of 2 cents a gallon on gasoline. Most of the money received was allocated to the trunklines, the remainder being earmarked to pay off balances owed the counties under the state reward system, which was abolished at this time.

The new tax proved to be highly successful. A 1927 measure to raise the gasoline tax to three cents met with approval. Under the new increase, cities were allocated $2,000 for each mile of trunkline within their limits, to defray maintenance costs, and counties an amount which, together with returns from the weight tax, would equal one-half of the weight tax. Additions to the trunkline system, authorized about this time, brought the total trunkline network to over 8,000 miles.

THE DEPRESSION YEARS

In late 1929, property tax collections were plummeting and tax delinquency rising. There were immediate and widespread demands for a reduction in real estate taxation and for the support of a larger share of local road improvements from more stable motor vehicle revenues. The resulting McNitt Act, in 1931, brought about, on the one hand, major reforms of local road administration, and on the other hand, many difficulties. While county road administration had reached a very high level of competence, road building by 1,269 separate township authorities was recognized as inefficient and wasteful. The McNitt Act provided for the consolidation of the 68,000 miles of township roads into 83 existing county systems, which were thus increased from 17,000 miles to over 85,000 miles, with the virtual elimination of former methods of financing the township roads. Unfortunately, a large part of the township mileage consisted of poor roads which did not permit economical maintenance. The county road commissions thus had to spend considerable sums on their improvement. Allocations from motor vehicle revenues could not meet the counties' heavily increased road obligations. The statewide 15-mill property tax limitation (constitutional amendment of 1932) made it next to impossible to raise any substantial amount of local taxes for road purposes.

Dykstra Act. Even before the Great Depression, mounting traffic within the cities was bringing demands for a solution to the congestion problem. The Dykstra Act of 1931 made provisions for larger state participation in urban street needs and costs. The state was permitted to pay amounts ranging from 50 per cent of costs in trunkline construction in cities of 50,000 and over, to 100 per cent in cities of less than 20,000. Cooperative agreements eventually led to the Edsel B. Ford and John C. Lodge Expressways in Detroit.

Horton Act. The distribution of state motor vehicle revenues was drastically revised under the Horton Act of 1932, with the entire proceeds of weight taxes now allocated to the counties, along with an annual $6,550,000 from gasoline taxes. $4,000,000 of the latter sum represented funds for township roads taken over by the McNitt Act, and to be distributed on a mileage basis. Of the weight tax proceeds, and the remaining gasoline funds, seven-eighths were apportioned among the counties on the basis of relative weight tax collections, and the remaining one-eighth was distributed equally among the 83 counties. Excluding an amount for

township roads, half of the county revenues were to be used for general highway purposes, the rest distributed according to a set schedule of priorities. The Act provided that one-fourth of the State Highway Department revenues (regardless of traffic and needs) should be spent for construction in the Upper Peninsula, one-fourth in the Lower Peninsula north of Townline 12, and the remaining one-half in the southern part of the state.

Though the Horton Act effectively established motor vehicle taxes as the principal basis of rural road finance, it largely eliminated all property tax levies for roads and virtually tied down real expanded road improvements from these sources. At the same time, the relief provided for local property taxation was obtained at the expense of the state trunkline system, since the Highway Department's share of motor vehicle revenues was virtually cut in half.

A NEW ERA FOR ROADS

The proponents of better highways, roads, and streets for Michigan have seen the greatest progress from World War II to the present. Road revenues have been substantially increased, and distributed to the governmental road agencies on a basis of relative needs; there have been effective administrative changes, and greater construction programs based upon studies and priorities. Such progress is the result of the work, cooperation and sacrifice of many, and is also due to forward-thinking legislation.

Good Road Bills of 1951. In 1946 the Michigan Good Roads Federation, a non-profit, non-political organization made up of governmental road agencies and private organizations and individuals, became greatly concerned over the obvious deterioration of the roads in the state. The Federation's directors ordered a comprehensive engineering analysis of all systems, and a study of the cost of meeting the needs. This two-year survey was one of the first of its kind in the nation, and its standards and procedures are now recognized throughout the world. Approximately 200 civil engineers gave freely of their time and effort in carrying it out.

Among its significant recommendations, the Federation stated that a *bare minimum* of $1,434,000,000 was necessary to bring our highway, road and street systems up to par by 1960; that highway user taxes should be increased to provide a *minimum* of $73,365,000 in additional revenues annually; that all motor vehicle fuel and weight taxes should be deposited in a single fund; that its distribution be carried out in accordance with the relative need of state, county and municipal roads as determined by the survey, and that the law requiring geographical expenditures of the state trunkline construction funds be repealed.

The purpose of the single road fund was to initiate a uniform accounting procedure, allowing motorists to see where and how their tax dollars were being used, and to give all road administrators a more accurate estimate of expected revenues for more efficient programming of maintenance and construction projects.

Because of indifference, lack of demands on the part of the public for increased revenues for roads, and a disbelief in needs, the recommendations of the Federation were not adopted by the Legislature until 1951—three years after the scientific study revealed our *minimum* needs. Even then, the important revenue measure was curtailed. The Legislature overrode the Governor's veto and voted an additional $30 million annually for highways, roads and streets.

Though this amount was far short of the annual amount necessary to meet our billion-dollar needs, it was a step forward. A report by the Automotive Safety Foundation stated, "Had it not been for this increase, Michigan road

administrators would have been completely swamped by their vastly expanded responsibilities. Nevertheless, today's higher revenues, greatly increased as they are, do not compensate for the combined impact of the mounting traffic load."

The additional revenues voted that year provided the first substantial increases since 1928 for the governmental road agencies. Additional revenues and bonding provisions at the state level alone permitted a jump from a high of $28 million before 1951 to $55,171,000 in 1952. To accomplish this, gasoline taxes and the weight tax on trucks were increased 50 to 100 per cent over the past fees. Money collected under the Act was deposited in a single Motor Vehicle Highway Fund and distributed on the basis of 44 per cent to the State Highway Department, 37 per cent to the counties, and 19 per cent to the municipalities, approximating as closely as possible the relative dollar needs of the three agencies, which unanimously approved the allocation.

Among the important administrative changes provided for in the Act were the following:

1. All road agencies were required to report to the Governor and the legislature on construction progress and expenditures from the motor vehicle funds;
2. All county road commissions and incorporated cities and villages were required to submit biennial road and street programs to the State Highway Commissioner;
3. Roads and streets were reclassified in accordance with purpose, quantity and quality of traffic and general use, and the state trunkline system was designated;
4. Boards of county road commissions were required to act as administrative bodies only, being limited to policy-making and the performance of duties imposed by law;
5. Cities and villages were required to designate one administrator to deal with the Highway Department on official matters;
6. All road agencies were required to adopt reforms to guarantee uniform accounting and reporting on the use of state collected revenues.

At the urging of the Michigan Good Roads Federation, the Legislature, in March, 1954, established the Joint Legislative Committee on Highway Needs, to bring the Federation's 1946-1947 engineering needs survey up to date. At the same time it authorized a fiscal study and a highway law study.[1] The Federation was directed to work with the Legislative Committee on all parts of the overall study. Work was begun by 300 state, county and city engineers.

Act 87 of 1955. Even before the engineering needs survey was completed, the need for increased road funds was unmistakably clear by early 1955. A new highway measure, Act 87, was adopted—but only after a hard battle. By this Act, road revenues were substantially increased by an additional 1½c gasoline tax and an overall increase amounting to about 11 per cent in weight tax on trucks. This money was deposited in a separate fund and distributed to road agencies on a basis of 75 per cent to the state, 16.5 per cent to the counties, and 8.5 per cent to incorporated cities and villages. The state's share assisted the Highway Department in reaching a construction total of $69,750,000 in 1955. The Act also established priorities for the expenditures of the state's share, stipulat-

[1]The Legal Subcommittee of the Michigan Good Roads Federation presented its first report on the highway law study to the Joint Legislative Committee on Highway Needs this January. The report, recommending the repeal of 254 sections of obsolete and conflicting highway law, was unanimously adopted by the Legislature and signed by Governor Williams. The Legal Subcommittee is at present rewriting all remaining highway laws, the goal being to give our state the finest highway law in the country. This phase of the work is expected to be completed in late 1959.

ing that the 75 per cent of the new fund granted to the State Highway Department be used for construction and reconstruction of trunklines, as follows:

The Interstate Highway System

The state trunkline system

U.S. 27 from the Indiana border to junction with M-76

U.S. 127 from the Ohio border to Lansing

U.S. 23 from the Ohio border to Flint

U.S. 223 from the Ohio border to U.S. 127

U.S. 131 from the Indiana border to Cadillac

U.S. 31 from the Indiana border to St. Joseph, and from Holland to Ludington

M-53 from Detroit to Imlay City

M-21 from Flint to Port Huron

M-78 from Flint to Lansing

As the Good Road Bills of 1951 are the basis for more efficient administrative practices, and for the affirmation of the theory that road revenues should be largely derived from motor vehicle fuel and weight taxes, Act 87 of 1955 is the basis for an *arterial system* of highways for the state.

The Federal-Aid Highway Act of 1956. Ever since the time the Federal government sent troops to clear a route for wagon trains through the Appalachians, some 150 years ago, it has been interested in highways. With the Federal-Aid Highway Act of 1956, this interest reached its peak. Congress pledged its support to construction or reconstruction of 41,000 miles of the National System of Interstate and Defense Highways. This new system will, in approximately 16 years, connect all 48 states, linking all but 23 of the nation's 232 cities of more than 50,000 population.

The Act authorizes approximately $24.8 billion of Federal funds for this purpose, to be matched by $2.6 billion of state funds at a new ratio of 90-10. The Federal funds are to be obtained by increased taxes on motor fuel, tires, trucks and buses. The user taxes are channeled into a Highway Trust Fund created by the Act.

The vast majority of the roads will be on new locations, with a *minimum* of 4 lanes, opposing traffic being separated by a wide median. The lanes are recommended to be at least 12 feet wide, and shoulders at least 10 feet. One of the most important features of the design standards deals with mandatory control of access. This means the preservation of rights of way for traffic movement. Unlimited egress and ingress is prohibited. There will be no crossroads or railroad crossings at grade. Interchanges will provide for entering and leaving.

Michigan's part of the System comprises about 1,070 miles of the most heavily travelled trunklines in the state. Most radiate from Detroit: they run to Indiana via Benton Harbor; to Muskegon; to Toledo; and to Sault Ste Marie. Several supplementary routes are also included. Michigan already is feeling the impact of this building program, with several sections of new highways recently opened to traffic.

Act 262 of 1957. "Financing Modern Highways for Michigan," the report of the study authorized by the Legislature in 1954, was made public late in 1955. It recommended, among other things, a return to a single Motor Vehicle Highway Fund, a change in the distribution of state revenues, and an increase of funds to local road agencies.

In 1957 the Legislature adopted Public Act 262, combining the revenue acts of 1951 and 1955 and re-establishing a single Motor Vehicle Highway Fund. Its distribution formula (still in force) granted 47 per cent of state-collected revenues to the Highway Department, 35 per cent to the counties, and 18 per cent to incorporated cities and villages, thus granting the local

units an additional $8 million yearly. Bonding limits were raised, a new snow fund established, and municipal sharing in state trunkline highway costs was either eliminated or reduced by half. The "arterial routes" of Act 87, 1955, were again given a priority.

FIVE-YEAR STATE CONSTRUCTION PROGRAM

A year ago State Highway Commissioner Mackie announced the Department's unprecedented $1¼ billion five-year construction award program. Averaging an expenditure of $250 million, the program will be financed by an estimated $550 million in Federal Aid, $400 million in bonds, with future gasoline and weight taxes as security, and $300 million, the Department's share from the Motor Vehicle Highway Fund. The program calls for:

- New construction or reconstruction of 2,900 miles of highway
- Construction of a new expressway system of over 900 miles, connecting all major Michigan cities of 50,000 or more
- Construction of expressways from the southern border to the Mackinac Bridge and the Sault, from Detroit to Chicago, and from Detroit to Muskegon, connecting, but bypassing, all cities on the way
- Paving all remaining 800 miles of gravel roads on the State trunklines
- Carrying out $400 million worth of urban-area projects, including a stepped-up Detroit area expressway program

Scope. This program calls for *more than twice* as many miles of four-lane divided highways in five years as were constructed in Michigan since the creation of the Highway Department in 1905. The state-wide arterial system will be within 30 miles of more than two-thirds of our people, almost 90 per cent of our industry, over 80 per cent of our farms, and all of our metropolitan counties, while its northern arm reaches into the heart of Michigan's vacation and tourist area.

Controlled Features. A considerable amount of mileage (all on the Interstate System) is being constructed to planned access standards. This will mean the relocation of many miles of roads, because of the requirements of the design standards of the U.S. Bureau of Public Roads, and of the excessive cost of attempting to utilize some existing routes. Yet if we are to meet our traffic needs, and avoid wasting tax money on inadequate construction designs, we *must* build future arterial roads of the controlled access type and by-pass communities wherever possible. There must also be proper access points to benefit the greatest number of people.

Highways not built to modern standards would be wasteful and short-sighted. Throughout the nation are many examples of costly major highways which have become death-traps or urban bottle-necks because of the unlimited access privilege. A prime example is the Dort Highway in Flint, originally constructed as a by-pass, but today a crowded city street. A by-pass around it has just been constructed at a cost of millions of dollars.

When the controlled access feature is included in a highway program, the motorist who pays the bill will gain in numerous ways, traveling on a route free of congestion, traffic lights, stop signs, and crossings. Controlled access routes will prevent numerous accidents in the years to come. Studies reveal that traffic accidents were cut *four-fold* on such routes as compared with conventional highways, while the death rate is less than a third that on the other roads.

The completed system will also open vast areas for business, residential and manufacturing development. Already there are many examples of this type

of development. In Boston, *off* Route 128, over 40 new plants and buildings valued at over $100 million have been constructed, with others being planned. Developments *off* New York's Thruway or Houston's Gulf Freeway tell a story of economic development and improved opportunities, in addition to meeting of traffic needs.

LOCAL PROBLEMS

Despite the scope of the program, it should be remembered that the plan will meet only *one-third* of Michigan's dollar highway deficiency. The new four-lane divided highway program only represents *10 per cent* of the state trunkline mileage. Even with contemplated Federal Aid and existing highway income, it will take a good many years to meet our highway needs. The problem is especially severe at the local level—county roads and city streets. Let us consider the county problem alone.

County Road Financial Difficulties. Since 1951, new revenues have made possible much progress in road and bridge building on the county road system. Some 11,000 miles of local and primary roads have been under construction, with approximately 9,000 miles and 150 bridges completed through 1957. Yet the adequacy of the system has only been improved *3 per cent per year,* and present revenues can scarcely improve the situation.

From the Motor Vehicle Highway Fund, Federal Aid, and local sources, a net of $88 million can be expected annually for county roads. To bring the county roads up to par in 20 years, $125 million annually is required, according to the recent needs study. Even without a decline in the value of the dollar, the 20-year program will have to be protracted to 28 years. County secondary roads can be expected to fare even worse.

It is obvious that additional financing is necessary if counties are to meet their 20-year obligations promptly. Moreover, such financing has to be on a sound basis if the county road administrators are to do their job properly.

THE NATURE OF THE CRISIS

State, county and municipal road authorities all face the same huge problem of pressing needs and inadequate revenues. "Modern Highways for Michigan,"[2] the consensus of 300 engineers working statewide to determine our needs and deficiencies, made it clear that we are in the midst of a highway crisis. At 1954 price levels, we need $7.5 billions in the next twenty years to provide for new highways and streets, and for improvements, maintenance, and administration.

What are the reasons for this tremendous lag?

First, costs and types of roads have changed greatly in a very short time. Our first highway, from Detroit to Toledo, cost a total of $38,000, including the pay of the soldiers who built it. Today, expressways in Detroit cost $4 to $10 million per mile. (Of course, they carry 100,000 vehicles a day, rather than a few wagon trains per week).

Second, we have not been able to visualize the growth of traffic in time to cope with it. There were 20,000 vehicles in Michigan fifty years ago; there are 3 million today There has been an 80 per cent increase since 1946 alone. Travel, meanwhile, has gone up 70 per cent. From now to 1975, both travel and registrations are expected to double.

Third, the backlog, due to insufficient funds and rapidly rising numbers of cars, is tremendous. Before 1951, we had, for fifteen years, the lowest gas tax in the country, and one of the

[2] "Modern Highways for Michigan" is the needs and deficiencies report submitted to the Legislature in late 1955. It was the engineering base for the fiscal plan, "Financing Modern Highways for Michigan," already mentioned.

lowest weight taxes. Today we just meet the national average with a 6-cent gas tax, while our passenger car weight tax is lower than it was in 1927. Since these taxes are basic to road revenues in the state, road administrators received no specific increase in road revenues between 1928 and 1951. That year's increase barely made up for rising costs and maintenance at the local level.

As a result of our lag in meeting road needs, we have 63 per cent of our highways deficient at present, 47 per cent of our county roads, and 42.1 per cent of our city streets. Only the public can ease the burden these figures place upon our highway officials.

America's Oldest Foreign Trade

The earliest records of exploration of the Atlantic coast show that the Newfoundland and Grand Banks fisheries are of unknown antiquity. Breton, Norman, Portuguese and Basque vessels seem to have been harvesting those northern waters before Columbus, taking back the Lenten staple of salt cod for the tables of Christian Europe. As long ago as the early sixteenth century the name given to the entire fishing area was Baccalo, the Basque word for codfish, the same name used for that fish today in Spanish, Italian and Portuguese: *bacallao, bacala,* and *bacalhau* respectively.

A correspondent, formerly a resident of Mexico, tells of the spring odor of boiling cod, a brisk northern smell blending strangely with soft scents of bay and eucalyptus trees. For forty days before Easter the breezes are full of bacallao. Leaving Latin America, he vacationed in Nova Scotia, on the fog-bound southern coast, and stopped at a village with a large packing plant. It was redolent of the familiar smell of a Mexican Lent. Our man stopped to talk to the proprietor, and found him puzzling over a letter from a Mexican customer. The traveler offered to translate, and noted the letter came from a grocery store four thousand miles away, where he used to shop. After talk ot the coincidence, and of the antiquity of the fisheries in Nova Scotia, it occurred to him to inquire the present name of the village. "Same as it's always been," the packer replied in flat Nova Scotian accents: "Bacalo."

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WATCH YOUR LANGUAGE

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Occupational Disease

DOES THE TREASURER have a pain in his shoulder? If so, the reason is clear. A *bursar* has sound etymological ground for suffering from *bursitis*. Both words derive from the Latin *bursa*, a purse. The bursar is the purse-holder of an organization; the bursa is the sac around his aching shoulder joint. Ultimately, purse and bursa alike derive from the Greek word for leather.

Fossils in the Courts

SINCE ALL COURTS of law in England did not rely exclusively upon the English language until 1731, many technical terms still current in legal parlance are Latin, Late Latin and Norman French. From the cry of *Oyez* (attend!) that opens a trial to the *fine*, *penalty*, or *acquittal* that ends it, the whole proceeding is studded with fossilized terminology. *Alimony*, or sustenance money, is an example of *estovers*. The latter word is a corruption of the Latin *est opus*, it is necessary. *Estoppel*, or legal impediment to changing one's position in the middle of a contract, is related to the stopper of a bottle: both go back to *stuppa*, Low Latin for tow for caulking or corking. Hence anyone frustrated by *estoppage* is literally bottled up. *Tort*, a civil wrong, represents twisted behavior—but other things than behavior can be twisted. To twist someone's arm is to *torture* him. Twisting and wringing dough results in *tortillas*, *torten*, and *tarts*. All alike, torts and tarts, originate in Latin *torquere*, which is also the source of *extortion*, the act of twisting money out of someone. How the *tortoise* gets into the act it is difficult to say: he has to twist his neck to see out of his carapace, but he is also shaped like a pie.

A.C.G.

OUR MOST IMPORTANT SUPPLIER GROUP is not the companies who furnish us materials, but the schools and colleges of our country who furnish us with the most important resource we or any other company can have—our people.

George Russell
Vice President, General Motors

READING FOR BUSINESS AND PLEASURE

U.S. Industrial Relations: The Next Twenty Years[1]

U. S. Industrial Relations: The Next Twenty Years, as the title indicates, is a collection of predictions by six outstanding authorities about developments in industrial relations over the next twenty years. The authors and topics covered are as follows:

1. John T. Dunlop, "The American Industrial Relations System in 1975".
2. Walter P. Reuther, "Labor's Role in 1975".
3. John S. Bugas, "Industrial Relations in 1975: A Management View".
4. David L. Cole, "The Future Role of Government in Industrial Relations".
5. Edwin E. Witte, "The Future of Social Security".
6. Clark Kerr, "The Prospects for Wages and Hours".

The entire series is edited and ably prefaced by Jack Stieber, Director of Research at Michigan State University's Labor and Industrial Relations Center.

Predictions regarding human behavior are inaccurate enough over the short haul to obviate any likelihood of precision over a twenty-year span. The authors are keenly aware of the limitations and demonstrate proper reluctance before barging ahead with their projections. Their ultimate lack of inhibition is most fortunate since it has resulted in an insightful group of essays in the industrial relations field.

To the thoughtful business executive, the problem of predicting over a twenty-year period in no way limits the value of this book. Predictions are made not so much to provide an accurate picture of the future as to shed light on an evolving present—particularly to sharpen one's awareness that tomorrow is intimately related to today's decisions and events. This is by no means a new idea in business. A number of companies systematically require their executives to make long-range predictions to insure that they are sensitized to the need to look ahead.

The predictions made in *U. S. Industrial Relations: The Next Twenty Years* are, like all predictions, based on certain perceptible facts and on value interpretations. The perceptible facts in industrial relations are principally population statistics. It is possible to predict with some degree of accuracy, barring catastrophic circumstances, how many people there are likely to be in the United States in 1975 and how these people will be distributed in terms of age and sex. These few shreds of evidence tell us a good deal about the size of the work force, the number of old people, and the number of youngsters which we can expect in 1975. Assuming the continuation of present values and patterns of behavior, the authors can predict the effects of a growing and shifting population on the extent of unionization, the length of the work week, the development of social security, the number of years devoted to education, and so on.

Other predictions of necessity hinge on the prognosticator's perception of the evolving values and sentiments of our society. Whether the country moves toward greater automation or less, longer or shorter work weeks, expansion of social security, or a leveling

[1] *U. S. Industrial Relations: The Next Twenty Years.* Jack Stieber, Editor, Michigan State University Press, East Lansing, 1958.

of wages and salaries, all depend on values and sentiments and what people see as right and proper in 1975. The authors and editor are unquestionably able interpreters of the American industrial scene and, to the extent that they are, the reader will gain a useful and credible glimpse of the future. At least, he will be stimulated to test his own thinking against the views of several professors, a lawyer, a university administrator, a labor leader, and an industrial executive, each of whom is well qualified in his field.

If the reviewer is permitted a few comments of his own, he would like to point up certain significant factors which are not ordinarily taken into consideration in projections of the type found in the present volume. If predictions are largely based on emerging values, why not study those who are likely to be in a position to push their own values and sentiments in the year 1975? We are speaking here of the emerging leaders in our society who are in the age bracket of twenty to forty-five. Potential leaders in this group can be identified now. What are their values and basic sentiments with regard to various aspects of industrial relations? More basically, what kind of social character and personality have they developed and how are they likely to react to key issues as they mature and move into crucial leadership positions? In the answers to these questions lies the future of America.

In the meantime, *U. S. Industrial Relations: The Next Twenty Years* is a worthwhile and valuable effort and one which is strongly recommended to the business executive.

D. G. Moore
Head, Department of Personnel and Production Administration

Books in Brief

SEMENOW, ROBERT W. *Questions and Answers on Real Estate.* Prentice-Hall, Englewood Cliffs, New Jersey. 3rd edition, 1958.

Although aimed at the professional in the field, this book will prove valuable to anyone wishing more than a casual knowledge of real estate. In addition to more than 2,000 questions and answers, the volume contains ample definitions, text material, problems, and real estate forms. Arrangement is such that research is facilitated, and each chapter which deals with a specific real estate function is prefaced by a clear-cut discussion of that particular subject.

SCAMMON, RICHARD M., ed. *America Votes: A Handbook of Contemporary American Election Statistics, 1956-57.* Macmillan, New York. 1958.

While this is a book that does not belong on the shelves of every household, all students of politics and election statistics should be acquainted with it. Among the election statistics of 1956 and 1957 which are included are the state primaries—presidential, gubernatorial, senatorial, and congressional primaries for each party; county-by-county and ward-by-ward data on the senatorial and gubernatorial races in

each state; and the full tallies of each state's senatorial vote since 1945, including totals, pluralities and percentages. This is the second volume in a series, and it is to be hoped that there will be future ones.

DUVERGER, MAURICE. *The French Political System.* University of Chicago Press, Chicago. 1958.

To many Americans one of the most interesting and sometimes amusing political situations is that in France. One of France's most astute political economists presents a clear picture of the problems faced by France, aiming this book at the American student. He indicates that the basic defect is the inability of the French to make decisions, and that among things his country needs today are a stronger executive branch of its government, an electoral system that will satisfy the majority of the several strong political groups, industrial expansion, and modernization of its agriculture. Mr. Duverger's book seems to be an honest critical analysis of the French system, and will be of value to anyone interested in the future of France.

VAZSONYI, ANDREW. *Scientific Programming in Business and Industry.* Wiley, New York. 1958.

With all of the discussion of linear programming for business and industry, there has been a scarcity of material in non-mathematical terms. Vazsonyi excels at describing, in non-mathematical language, such scientific techniques as operations research, linear programming, and statistical decision theory. The book will be a genuine help in applying these techniques in the business and industrial world.

GORDON, ROSALIE M. *Nine Men Against America.* Devin Adair, New York. 1958.

Recent years have seen several bitter attacks on the Supreme Court; this book will do nothing to mitigate them. It is Miss Gordon's thesis that the decisions of the Court have been handed down by politicians rather than jurists, in a period of decline starting in 1937 and continuing during the Eisenhower administration. Although this is fascinating reading, many of the author's conclusions are open to debate.

ARANOW, EDWARD R. and HERBERT A. EINHORN. *Proxy Contests for Corporate Control.* Columbia University Press, New York. 1957.

With the increase in proxy fights, the appearance of this book is timely. While many such fights have been highly publicized, many others have not; there are in addition many other contests which were threatened but were compromised or resolved before a battle actually began. The authors of this book have written a detailed technical account of the forces that make up a proxy fight. The subjects are treated in their relation to the S.E.C. rules, stock exchange rules, state statutes, and court decisions. It is pointed out quite clearly that the effective conduct of a proxy fight requires the combined efforts of the lawyer, accountant, public relations expert, and proxy solicitor, and that the assistance of a security analyst is often necessary.

HAMILTON, DANIEL C. *Competition in Oil: The Gulf Coast Refinery Market, 1925-1950.* Harvard University Press, Cambridge. 1958.

Recent years have seen much emphasis placed upon natural resources, particularly oil. This volume presents a systematic study of one of the most influential refinery markets for petroleum products. Among the topics discussed are price data, types of buyers and sellers, efficiency of the industry, profit levels, and the extent and character of innovation. A feature that will appeal to researchers in this field is the excellent bibliography.

FISHER, PHILIP A. *Common Stocks and Uncommon Profits.* Harper & Brothers, New York. 1958.

Most of us have the desire to make money, and it is the contention of this book that those who follow it closely will have money to put in the bank. Mr. Fisher has an interesting style; many will raise their eyebrows over his unorthodox approach to security analysis. His ten "Don'ts" for investors puncture the general confidence of many security analysts in the mathematical factors such as ratios, percentages, and dividend records. The author makes it clear that there are no simple short cuts to riches via the investment field.

CHESKIN, LOUIS. *How To Predict What People Will Buy.* Liveright, New York. 1957.

This fascinating book expounds in readable terms the science of Motivation Research. Through analysis of such questions as "What is unconscious level testing?", "What is the importance of imagery in marketing?", "How important is color?", and "Where did motivation research originate?", the reader is led into the intricacies of the subject. Among the testing techniques revealed are those used in the developing of the packages for Lux Toilet Soap, Marlboro Cigarettes, and Good Luck Margarine.

ACHESON, DEAN. *A Citizen Looks at Congress.* Harper & Brothers, New York. 1957.

In a penetrating and constructive analysis of Congress, Acheson examines and explains the working of the division of power within the United States government. Beginning with an examination of Woodrow Wilson's *Congressional Government,* which made an excellent case for placing in the hands of Congress both the formulation and execution of power, Acheson points out that today it is the President who must lead. Acheson feels that Congress in its present role is sometimes irresponsible and unnecessarily cumbersome. Yet he mentioned that Congress under strong and able leadership (e.g. that of Senator Vandenburg and Speaker Rayburn) can work with great effectiveness. This is a book that well deserves reading, both for the author's thoughtful analysis and his long practical experience in government.

Directors' and Officers' Encyclopedic Manual. Prentice-Hall, Englewood Cliffs, New Jersey. 1955.

This volume, which is aimed at the business officer or director, will be of value to all persons wanting information about corporate management. Alphabetically arranged for ready reference, it gives explanations of terms and phrases which are encountered daily. Among the topics included are accounting, conduct of corporate meetings, commercial law, industrial relations, pension planning, and public relations. There is also such material as tax forms, organization charts, and forms for resolutions, minutes and notices of meetings. It is an encyclopedia that many will use almost daily.

LIVINGSTON, J. A. *The American Stockholder.* Lippincott, New York. 1958.

Who is the American stockholder? Mr. Livingston supplies abundant information about him. The author points out that the stockholder is largely an absentee owner with little political power in Washington and even less in the management of his own property. Perhaps the most interesting sections of the book are those devoted to the gigantic battles for control of the New York Central and Montgomery Ward, and the colorful accounts of those ever-present critics of management: Lewis D. Gilbert and Wilma Soss.

Current Business Conditions

AN MSU economics professor, who for several months has been selling the stock market long, was asked the other day if he had now become a "bear,"—the reply was "No, just a scared bull." Certainly, in the early weeks of September, there were a number of strange moves among the financial indicators, any of which was capable of scaring bulls. Foremost among these were: 1) the increase in margin requirements from 70 to 90 per cent made by the Federal Reserve Governors, suggesting the belief that there was too much speculation; 2) the financial effects of the collapse of the government bond market, wherein "speculators" lost heavily; 3) the increase from 2 to 2½ per cent in the rediscount rate, a tight money move that would certainly have some effect in applying the brakes, and 4) increasing evidence that the stock market "boom" was not justified by the trend of things in the real world of production and final sales. Given the current tax rates, many large security holders appear reluctant to sell, despite the heavy demand and a bull market, with the result that there is over-active trading of a relatively small number of shares, and these are being traded only in small lots.

Despite the vociferous noises emanating from Washington to the effect that the recession is over and the economy is now in a boom, there are still enough unfavorable and unstable elements in the picture to tempt one to a bearish view. To a large extent, a great deal of the talk about the possibility of a 1958-1959 boom has been whistling in the dark, both for a Republican victory and a hoped-for change in consumer attitude toward the lower, longer, and higher (priced) automobiles.

Production Activity

In September, the Federal Reserve index of industrial production (seasonally adjusted) showed the smallest gain (1 point) since May, when it first reversed its movement from the recession low. An earlier Federal Reserve estimate of a 3-point advance between July and August was revised downward, with the result that, in September, the index showed no change from the previously announced 137 points (1947-1949 = 100) for August. Earlier announcements had predicted a marked upturn in the late summer months, but this had not developed by September.

A weighted index, the Federal Reserve barometer reflected a number of diverse changes in production activity. Advances in nondurable goods and minerals continued in the late summer months, and apparel, processed goods, and tobacco reached new highs. In the durable goods industries there were gains in some sectors, but a marked drop in auto assemblies offset the progress of other hard goods. The cut in auto production, caused by prolonged and early model changeovers and work stoppages, was anticipated—just as the industry now hopes consumers will buy the 1959 model.

While the pace of recovery slackened in September, the earlier upturn in production had been sharp. To a large extent, however, the record rate of inventory liquidation which characterized the downturn has been responsible for the rapid recovery. The recession drop in steel production greatly exceeded the curtailment of steel consumption, for example, and users drew heavily on inventories. When inventories came into line with sales an accelerated increase in output was required to build inventories, part-

ly because of war scares and partly because of anticipated price increases. The sharpness of the decline, therefore, primarily reflected durable goods inventory liquidation, and the sharpness of the recovery was due to inventory accumulation in these same industries.

Since there has been no appreciable change in the final consumption of durable goods, the record to date is one of changing inventories rather than fluctuating consumer sales. The slowing down, in 1956 and 1957, of consumer purchases of autos and other durables played a role in bringing about the recession but this was cumulative over some time, while the inventory liquidation was quite sharp. In view of the inventory record it is not surprising that the Federal Reserve index has gained back 11 of the 19 points it lost in the months of the decline. In the event that consumer durable goods purchases do not pick up, and if the '59 models meet the sales resistance of the past year, the inventory accumulation of August and September could easily reverse itself once again.

In analyzing current business conditions, and the prospects for 1959, it is well to distinguish between the abrupt inventory changes which have accentuated the recent fluctuations, and the more persistent effect of movements in expenditures for new plant and equipment and in the level of employment.

Investment Changes

As with production, the picture for increases in new plant and equipment is mixed. Construction activity has remained strong during 1958, with concentrations in public works and residential building. The buoyancy of public works has been aided by rushing plans off the drafting boards and by an accelerated placement of defense orders. How long these forces can continue depends upon military expectations and state legislative propensities to vote new public construction.

In private residential construction, September did not offer too much promise, since on a seasonally adjusted basis there was no appreciable gain in housing starts. The tightening of credit and higher interest rates, caused by both local and national conditions, do not stimulate the demand for new housing. In addition, the drying up of Federal assistance for mortgages does not favor a higher rate of private construction for the months ahead.

Expenditures for new plant and equipment leveled off at about $30 billion during the third quarter of 1958, down $6 billion from the 1957 fourth quarter, according to the Department of Commerce. Depending upon which survey of businessmen's anticipations are read, some increase can be expected in the fourth quarter of 1958 or the first quarter of 1959, but in any case there will not be a sharp rise. The encouraging element in the picture, Commerce claims, is the bottoming out of the decline in new plant and equipment expenditures, but the bearish element is the absence of an anticipated rise. A recent private survey of business plans for expansion shows that capital expenditures for 1959 will average about $2 billion below the fourth quarter estimate of $31 billion. Contrary to Department of Commerce expectation of an upturn in new plant and equipment, the Lionel D. Edie estimate for 1959 suggests that there is little to hope for in this sector.

Government orders for procurement and production of major defense items have been a big factor in the 1958 picture, and in 1959 will undoubtedly continue about a billion above the previous year. However, there will be a clamor for curtailment of nondefense spending when Congress reconvenes, and what with the President's insistence upon renewed efforts toward thrift and efficiency in government and business, there is a strong likelihood that government expenditures will not rise appreciably in the near future. An added

factor in the public sector is the virtual collapse of the government bond market that will frustrate additional expansion of the debt. To finance government expenditures out of taxes upon savings (which are flooding the stock market) is obviously out of the question.

Employment

In September, largely for seasonal reasons, both employment and unemployment declined. In mid-September there were 64.6 million employed, a drop of 700,000 from mid-August, as students withdrew to return to classes and farm activity lulled. Unemployment declined in September by about 600,000 with approximately half of the decline due to seasonal factors. The drop in unemployment was largely effected by increases in auto and steel production. The seasonally adjusted rate of unemployment declined from 7.6 per cent in mid-August to 7.2 per cent in mid-September, whereas in September, 1957, the unemployment rate was only 4.5 per cent.

Despite the September decline in unemployment, the job outlook continues to be the most distressing element in the current situation. While the production recovery has been sharp, there has been no such marked decrease in unemployment. To a large extent, business has continued the cost-cutting practices which commenced with the recession. In manufacturing, for example, the increase in output has been many times the industry's increase in production employment. While the failure of manufacturing production employment to rise as rapidly as output has been partially offset by increased employment in the service-producing industries, a large portion of the economy's unemployed workers have been permanently displaced. As the *Wall Street Journal* noted recently, more capital intensive methods of production have reduced even the full capacity employment needs of many industries.

The lag in a rapid employment recovery strongly suggests that a boom, or even full recovery, is still some distance off. While unemployment insurance and government transfer payments have softened the blow of the recession, it seems logical that people cannot buy new consumer durables on the strength of these payments. The sale of nondurable consumer goods has kept pace during 1958, even though retail sales have lagged about 1½ per cent. In durable consumer markets, however, sales in September, 1958 were about 10 per cent below the like period in 1957 (seasonally adjusted), and while this was influenced by curtailed auto sales, still there was general resistance to all durable goods purchases.

Leading Economic Indicators

Adding to the confusing picture of industrial production is the current movement of the "leading economic indicators" which have been developed by the National Bureau of Economic Research. It is reported that less than half of the major series were rising in August and September, in contrast to the reports of an advance on all fronts in May, June, and July. The sluggishness and direction of the various series currently suggests that there was a false start in the upward trend of business activity in May, 1958. While it was some time ago, business and financial experts cannot suppress too easily their remembrance of the traumatic experience in 1930, when business activity also moved upward for the first couple of months of the year. The economic holocaust which followed that upturn was the result of a false start, which was predicated on the belief that the economy would solve its own problems without any help from any source—business investment, new orders or the government. If the upturn that began in May, 1958, should prove to be a false start, or a mere inventory change, the economy will not plunge to the depths as in 1930. The current political and

economic environment would certainly rule out a depression of that magnitude, but it does not preclude the possibility that there will continue for some time to be a relatively high rate of unemployment, and a low level of plant and equipment expenditures.

In the course of the recent downturn, inflationary pressures have persisted and the wholesale and consumer price indices have continued to rise. While September showed only a side movement for these price indicators, the prospect for continued inflation is strong. Because of this persistent increase in prices, a good deal of the recent rise in the Gross National Product must be explained in these terms. Estimated in current dollars, GNP increased $11 billion in the third quarter of 1958, from $429 billion to $440 billion (with profits the biggest gainer). The Commerce Department estimates that GNP will reach $450 billion in the fourth quarter and $480 billion by mid-1959. It is correctly stated that the latter two figures, should they materialize, would be record highs for GNP. This is true—but they would be accounted for, at least partially, by inflation.

Another confusing item in the GNP estimates is the influence of the Commerce Department revision, in July, 1958, of this particular statistical series. For example, the earlier GNP estimate for 1957 was $434 billion, but the revision increased the figure by $6 billion. As the Commerce Department has itself pointed out, the revision of the series accentuates the picture of both the decline in business activity and its recovery—on a chart the 1957-1958 dip would appear much sharper because of the revised figures.

As a result of the revision of the series, and inflationary influences, the GNP is approaching new heights. However, unless comparison is made between the old series and the new, both in constant dollars, it is misleading to interpret the current level of GNP as an indicator of the economy's health.

J.P.H.

MICHIGAN AND RELATIVE GROWTH IN VALUE ADDED

For assessing industrial growth, "value added by manufacture" can be used effectively to compare manufacturing among areas; as a yardstick of manufacturing activity it is more direct than employment figures or other indicators because it measures net output.

Between 1947 and 1956 "value added by manufacture" rose an average of 88 per cent in the United States. The Census Bureau has computed an index for each state, which is here presented for Michigan and nearby states.

Michigan ranks second in increase in manufacturing activity among the more industrialized eastern and north central states. This favorable relative comparison suggests that Michigan, during the period, would rank significantly above the median average in the area for other indices as well.

INDEX OF STATE INCREASES IN VALUE ADDED BY MANUFACTURE: 1947-1956

(U. S. Average Increase = 100)

State	Index of Increase 1947 - 1956
Ohio	108
MICHIGAN	106
Minnesota	99
Indiana	97
Illinois	85
Wisconsin	85
Pennsylvania	84
New York	70

Source: U. S. Department of Commerce, Office of Area Development.

MICHIGAN BUSINESS STATISTICS

Bank Debits

City	Bank Debits (Thousands of Dollars) August 1958	Bank Debits (Thousands of Dollars) September 1958	Percent Change from Previous Year August 1958	Percent Change from Previous Year September 1958
Adrian	25,394	26,084	−11.2	— .2
Battle Creek	85,522	74,762	+ 1.5	— 4.2
Bay City	54,774	57,065	−10.4	+ 5.4
Detroit	5,732,685	5,772,691	−16.5	— 9.3
Flint	151,919	149,778	— 6.4	— 7.0
Grand Rapids	314,491	337,411	— 6.3	+ 2.1
Jackson	83,249	88,390	−14.3	— 7.3
Kalamazoo	151,095	159,709	— 6.4	+ 6.3
Lansing	151,009	136,484	−10.4	— 9.9
Muskegon	79,307	81,885	−11.8	−13.3
Port Huron	40,351	38,493	−13.0	— .8
Saginaw	119,723	114,342	−11.7	— 2.3
Escanaba	12,122	12,920	— 9.1	— 1.3
Marquette	14,737	14,339	−14.2	— 5.7
Sault Ste. Marie	13,370	12,699	+ 9.0	+13.0

Sources: Federal Reserve Banks of Chicago and Minneapolis and Board of Governors of the Federal Reserve System.

Department Store Sales

September 1958

	Percent Change from August 1958	Percent Change from September 1957	Percent Change, Year to Date: 1958 from 1957
Battle Creek	−10	−10	— 4
Detroit*	+ 6	— 5	— 4
Flint*	— 3	0	— 9
Grand Rapids*	+10	— 1	— 6
Jackson*	— 3	— 8	— 9
Kalamazoo*	−11	0	— 7
Lansing*	+10	— 2	— 5
Muskegon	— 3	— 6	−10
Port Huron	— 2	+ 6	−10
Saginaw*	+ 5	+20	— 4

*Metropolitan Areas

Source: Federal Reserve Bank of Chicago.

MICHIGAN BUSINESS INDEXES

INDEX OF BUSINESS ACTIVITY[1]

	Sept. 1958	*Aug. 1958*	*Sept. 1957*	*Percent Change to Latest Month 1958 from: Previous Month*	*Same Month 1957*
Michigan	176.5	163.0	186.1	+8.3	−5.2
Detroit	179.8	165.0	191.4	+9.0	−6.1
Michigan Excluding Detroit	162.7	154.6	164.3	+5.2	−1.0

INDEX OF BANK DEBITS[2]

Michigan	210.2	194.1	219.6	+8.3	−4.3
Detroit	214.2	196.5	225.9	+9.0	−5.2
Michigan Excluding Detroit	193.8	184.1	193.9	+5.3	− .1

INDEX OF RETAIL SALES[3]

	Aug. 1958	*July 1958*	*Aug. 1957*		
Michigan	154.0	157.9	161.9	−2.5	−4.9
Bay City	157.8	160.8	162.7	−1.9	−3.0
Detroit	150.7	156.1	167.2	−3.5	−9.9
Flint	185.3	185.1	190.6	+ .1	−2.8
Grand Rapids	151.1	154.1	162.8	−2.5	−7.2
Jackson	150.0	150.4	156.2	− .3	−4.0
Kalamazoo	167.2	172.9	171.6	−3.3	−2.6
Lansing	157.8	159.7	159.1	−1.2	− .8
Saginaw	160.3	164.1	170.6	−2.3	−6.0

INDEX OF RETAIL SALES BY COMMODITY GROUP[3]

	Aug. 1958	*July 1958*	*Aug. 1957*		
Automotive	150.9	150.9	176.9	0.0	−14.7
Apparel	120.2	126.0	142.3	−4.6	−15.5
Bldg. Lumber, Hdw.	149.8	152.3	171.0	−1.6	−12.4
Foods	162.3	164.5	166.5	−1.3	− 2.5
Furniture	169.3	171.2	192.7	−1.1	−12.1
Gen. Mdse	128.3	130.9	137.8	−2.0	− 6.9

[1]Bank Debits adjusted for seasonality and price change.

[2]Seasonally adjusted; basic data from Federal Reserve Banks of Chicago and Minneapolis.

[3]Seasonally adjusted; basic data from Michigan Department of Revenue.